Iowa Department of Natural Resources
Title V Operating Permit

Name of Permitted Facility: Iowa State University Power Plant
Facility Location: Wallace Road, Ames, Iowa
Air Quality Operating Permit Number: 00-TV-046-M001
Expiration Date: September 4, 2005

EIQ Number: 92-2776
Facility File Number: 85-01-007

Responsible Official
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This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

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Douglas A. Campbell, Supervisor of Air Operating Permits Section Date

Table of Contents

I. Facility Description and Equipment List **4**

II. Plant - Wide Conditions **7**

III. Emission Point Specific Conditions **9**

IV. General Conditions **124**

G1. Duty to Comply
G2. Permit Expiration
G3. Certification Requirement for Title V Related Documents
G4. Annual Compliance Certification
G5. Semi-Annual Monitoring Report
G6. Annual Fee
G7. Inspection of Premises, Records, Equipment, Methods and Discharges
G8. Duty to Provide Information
G9. General Maintenance and Repair Duties
G10. Recordkeeping Requirements for Compliance Monitoring
G11. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification
G12. Hazardous Release
G13. Excess Emissions and Excess Emissions Reporting Requirements
G14. Permit Deviation Reporting Requirements
G15. Notification Requirements for Sources That Become Subject to NSPS and HAP Regulations
G16. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification
G17. Duty to Modify a Title V Permit
G18. Duty to Obtain Construction Permits
G19. Asbestos
G20. Open Burning
G21. Acid Rain (Title IV) Emissions Allowances
G22. Stratospheric Ozone and Climate Protection (Title VI) Requirements
G23. Permit Reopenings
G24. Permit Shield
G25. Severability
G26. Property Rights
G27. Transferability
G28. Disclaimer
G29. Notification and Reporting Requirements for Stack Tests or Monitor Certification
G30. Prevention of Air Pollution Emergency Episodes
G31. Contacts List

V. Appendix A: IDNR Air Quality Policy 3-b-08 (Opacity Limits) **137**

Abbreviations

acfm.....actual cubic feet per minute
scfm…….standard cubic feet per minute
CFR.....Code of Federal Regulation
^{o}F.....degrees Fahrenheit
EIQ.....emissions inventory questionnaire
gr./dscf.....grains per dry standard cubic foot
IAC.....Iowa Administrative Code
IDNR.....Iowa Department of Natural Resources
MVAC.....motor vehicle air conditioner
NSPS.....new source performance standard
lb./hr.....pounds per hour
lb./MMBtu.....pounds per million British thermal units
USEPA.....United States Environmental Protection Agency
ppmv……parts per million by volume
gr./100 cf…….grains per one hundred cubic feet
TPY…….tons per year
TPH…….tons per hour
CFB…….circulating fluidized bed
MMBtu/hr……million British thermal units per hour
CSA…….coal sampling and analyses
BACT……..best available control technology
PSD…….prevention of significant deterioration

Pollutants

PM.....particulate matter (also referred to as TSP)
PM_{10}……particulate matter ten microns and less in diameter
SO_2.....sulfur dioxide
NO_x.....nitrogen oxides
VOC.....volatile organic compound
CO.....carbon monoxide
HAP.....hazardous air pollutant
F……..fluorides
Pb……lead
Be……beryllium

I. Facility Description and Equipment List

Facility Name: Iowa State University Power Plant
Permit Number: 00-TV-046-M001

Facility Description: Electric and Other Services Provider

Equipment List

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description
S	B1	CFB Boiler #1
S	B2	CFB Boiler #2
S	B3	Spreader Stoker Boiler #3 (Coal Fired)
S	B3-G	Spreader Stoker Boiler #3 (Natural Gas Fired)
S	B4	Spreader Stoker Boiler #4 (Coal Fired)
S	B4-G	Spreader Stoker Boiler #4 (Natural Gas Fired)
S	B5	Chain Grate Stoker Boiler #5 (Coal Fired)
S	B5-G	Chain Grate Stoker Boiler #5 (Natural Gas Fired)
S	B6	Chain Grate Stoker Boiler #6 (Coal Fired)
S	B6-G	Chain Grate Stoker Boiler #6 (Natural Gas Fired)
S	B7	Chain Grate Stoker Boiler #7
ss	B1	CFB Boiler #1
ss	B2	CFB Boiler #2
ss	B3	Spreader Stoker Boiler #3 (Coal Fired)
ss	B3-G	Spreader Stoker Boiler #3 (Natural Gas Fired)
ss	B4	Spreader Stoker Boiler #4 (Coal Fired)
ss	B4-G	Spreader Stoker Boiler #4 (Natural Gas Fired)
ss	B5	Chain Grate Stoker Boiler #5 (Coal Fired)
ss	B5-G	Chain Grate Stoker Boiler #5 (Natural Gas Fired)
ss	B6	Chain Grate Stoker Boiler #6 (Coal Fired)
ss	B6-G	Chain Grate Stoker Boiler #6 (Natural Gas Fired)
ss	B7	Chain Grate Stoker Boiler #7
EP1	EU1	CFB Ash Transport
EP2	EU2	CFB Ash Storage Silo
EP3	EU3	Truck Loading-Dry Ash (Fugitive)
EP4	EU4	CFB wet Ash Mixer (Fugitive)
EP5	EU5	Truck Loading-Wet Ash (Fugitive)
EP10	EU10	Truck Unloading-Limestone (Fugitive)

EP11	**EU11**	**Unloading Limestone Hopper**
EP20	**EU20**	**Loading Coal Into Hopper (Fugitive)**
EP21	**EU21**	**Crushing, Conveying, & Transfer-Coal**
EP22A	**EU22A**	**Drag Chain 2A-Coal Transport**
EP22B	**EU22B**	**Drag Chain 2B-Limestone Transport**
EP22C	**EU22C**	**Silo 1 Loading-Coal**
EP22D	**EU22D**	**Silo 2 Loading-Limestone**
EP22E	**EU22E**	**Silo 3 Loading-Coal**
EP30	**EU30**	**Front End Loading Stoker Coal (Fugitive)**
EP30A	**EU30A**	**Crushing and Conveying Stoker Coal (Fugitive)**
EP31	**EU31**	**Stoker Coal Bunker Loading**
EP40	**EU40A**	**Truck Unloading-Coal Storage Pile (Fugitive)**
EP40	**EU40B**	**Front End Loader Reclaim-Coal Storage Pile (Fugitive)**
EP40	**EU40C**	**Wind Erosion-Coal Storage Pile (Fugitive)**
EP50	**EU50**	**Stoker Fly Ash Transport**
EP51	**EU51**	**Stoker Fly Ash Silo Loading**
EP52	**EU52**	**Fly Ash Load-Out (Fugitive)**
EP53	**EU53**	**Fly Ash Load-Out-Dry Spout**
EP60	**EU60**	**Stoker Bottom Ash Transport**
EP61	**EU61**	**Steam Puller Discharge**
EP62	**EU62**	**Stoker Bottom Ash Silo Loading (Fugitive)**
EP63	**EU63**	**Stoker Bottom Ash Load-Out (Fugitive)**
EP80	**EU80**	**Central Vacuum System**
EP90	**EU90**	**Vehicle Traffic (Fugitive)**
EP100	**EU100**	**Diesel Generator**

Insignificant Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EU10A	Pneumatic Truck Unloading (Limestone)
EU70	Cooling Tower
EU71	Solvent Parts Washer
EU75	Maintenance Welding

II. Plant-Wide Conditions

Facility Name: Iowa State University Power Plant
Permit Number: 00-TV-046-M001

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

Permit Duration

The term of this permit is: Five (5) years
Commencing on: September 5, 2000
Ending on: September 4, 2005

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity
Authority for Requirement: 567 IAC 23.3(2)"d"

SO_2: 500 parts per million by volume
Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter: No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.

For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).
Authority for Requirement: 567 IAC 23.3(2)"a"

Fugitive Dust: Attainment and Unclassified Areas - No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking

reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizers or limestone.
4. Covering at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

Authority for Requirement: 567 IAC 23.3(2)"c"

III. Emission Point-Specific Conditions

Facility Name: Iowa State University Power Plant
Permit Number: **00-TV-046-M001**

Emission Point ID Number: S

Associated Equipment

Emission Unit ID No.	Control Equipment ID No. and Description	Continuous Emissions Monitor ID No
B1	CFB1 Circulating Fluidized Bed Boiler 1 BGH1 Pulse Jet Baghouse 1	OP1, S1, N12, C12, OPS
B2	CFB1 Circulating Fluidized Bed Boiler 2 BGH2 Pulse Jet Baghouse 2	OP2, S2, N12, C12, OPS
B3	DC3 Multiclone Dust Collector P3 Electrostatic Precipitator	OPS
B3-G	DC3 Multiclone Dust Collector	OPS
B4	DC4 Multiclone Dust Collector P4 Electrostatic Precipitator	OPS
B4-G	DC4 Multiclone Dust Collector	OPS
B5, B5-G	DC5 Multiclone Dust Collector	OPS
B6, B6-G	DC6 Multiclone Dust Collector	OPS
B7	DC7 Multiclone Dust Collector	OPS

Applicable Requirements

Emission Unit vented through this Emission Point: B1
Emission Unit Description: Circulating Fluidized Bed Combustion Boiler #1
Raw Material/Fuel: Coal
Rated Capacity: 235 MMBtus of heat input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 10%[(1)]
Authority for Requirement: Iowa DNR Conditional Permit 86-A-127
567 IAC 23.3(2)"d"

[(1)] When B1 and/or B2 are fired with any of the other boilers Emission Limit: 30%
When neither B1 or B2 are fired and only the other boilers are fired Emission Limit: 40%
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.034 lb./MMBtus of heat input and 70 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-127

Limits When Burning Iowa Coal, or Equivalent[(2)]

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 1.0 lb./MMBtus of heat input, 30 day rolling average[(3)]
[(3)] Not to exceed 10% of the potential SO_2 emissions (90% reduction of potential SO_2 emissions without SO_2 absorption), 30-day rolling average.
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 1.42 lb./MMBtus of heat input, rolling 3-hour average.
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 0.40 lb./MMBtus of heat input, 3-hour average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 200 ppm, 34.03 lb./hr, and 0.145 lb./MMBtus of heat input, 3-hour average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Fluorides (F)
Emission Limit(s): 9.124 lb./hr and 0.039 lb./MMBtus of heat input, 3-hour average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Lead (Pb)
Emission Limit(s): 0.366 lb./hr and 0.0015 lb./MMBtus of heat input, 3-hour (minimum) average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Beryllium (Be)
Emission Limit(s): 0.148 lb./hr and 0.00063 lb./MMBtus of heat input, 3-hour (minimum) average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

(2) Each standard applies at all times except during periods of start-up, shutdown, and malfunction. Each standard is applicable to each approved boiler (boilers B1 and B2) unless otherwise stated.
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Limits When Burning Low Sulfur Western Coal(4,5), or Equivalent

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.2 lb./MMBtus of heat input, rolling 30-day average(6)
(6) Said gasses shall not exceed 40% (60% reduction) of the potential SO_2 emission rate, rolling 30-day average, for the Rochelle-approved coal.
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 1.42 lb./MMBtus of heat input, rolling 3-hour average.
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 0.40 lb./MMBtus of heat input, rolling 30-day average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 200 ppm and 0.145 lb./MMBtus of heat input, 3-hour average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Fluorides (F)
Emission Limit(s): 0.007 lb./MMBtus of heat input, 3-hour average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Lead (Pb)
Emission Limit(s): 0.000016 lb./MMBtus of heat input, 3-hour (minimum) average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Beryllium (Be)
Emission Limit(s): 0.00000066 lb./MMBtus of heat input, 3-hour (minimum) average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

(4)Each standard applies to each of the PSD-approved CFBC boilers. The emissions from said boilers shall not be averaged for purposes of verification of compliance of the emission standards.
(5)Only the Rochelle coal, or its equivalent, is approved under the modification to the permit of June 3, 1988. "Rochelle coal" means the coal supply mentioned in ISU's letter of March 20, 1987. "Low-sulfur western coal" as used in the letter means said "Rochelle coal".
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:
1. This boiler is limited to a maximum heat input rating of 235 million BTU's per hour (MMBtu/hr) or a maximum rated steam production capacity of 170,000 lb./hr @ 420 psig, and 750 degrees F.

Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

2. This boiler is restricted to coal, with gas and/or oil start-up. The owner/operator must receive the PSD implementing agency's approval if the owner/operator wants to burn a fuel other than coal in the boiler(s) on a continuous or trial basis. At that time, the agency may impose BACT emission standards (including a percent reduction requirement) for the other fuel type(s) in question even if an emission reduction will occur. Other PSD-related provisions (e.g., ambient air quality analyses) may also be imposed. For the purposes of this permit, "coal" means the coal supply (or similar, midwestern, coal supplies) which was used by the agency in setting the SO_2 BACT emission limitations set under "Limits When Burning Iowa Coal, or Equivalent" above.

Authority for Requirement: Condition 8 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

3. Only Iowa coal (or its equivalent) or the Rochelle coal supply (or its equivalent), as reviewed and approved by the EPA regional office may be burned in the PSD-approved CFBC boilers. Combinations of said fuels is not allowed without the prior approval of the EPA regional office and without the prior modification of the 12/20/86 letter, as deemed necessary by the EPA regional office. The provisions of this condition do not supersede the restrictions/requirements of the above fuel restrictions.

Authority for Requirement: Condition 13 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Reporting & Record keeping:

1. All records required to be kept by the owner/operator under this permit shall be available at the plant during normal business hours in a form suitable for inspections by federal or state air pollution regulatory agencies, and their authorized representatives, for at least five (5) years from the date of their recording.

Authority for Requirement: Condition 10 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

2. The owner/operator shall notify the EPA regional office whenever the owner/operator changes from one approved fuel supply to another approved fuel supply. Said notification shall be by letter, postmarked no later than two weeks (14 calendar days) after the date of the switch. The provisions of this condition do not supersede the restrictions/requirements of no. 2, *Process throughput*, above. The owner/operator shall record and maintain records, on a daily basis, of the type(s) of fuel combusted in the CFBC boilers on that day. Each such record shall be maintained by the owner/operator for at least five (5) years.

Authority for Requirement: Condition 12 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

SO_2 Emissions Reduction Compliance

The owner/operator must demonstrate at least a 90 percent reduction of the potential SO_2 emission rate when burning Iowa coal, or equivalent, and at least a 60 percent reduction of the potential SO_2 emission rate when burning low sulfur western coal, or equivalent on a 30-day rolling average. The reduction is to be calculated as shown below.

The arithmetic average of all daily average emission rates measured at the boiler outlet (CEM) shall be determined for 30 successive boiler operating days, following the procedures as set forth in Method 19, Section 3 of 40 CFR Part 60, Appendix A. An "as fired" fuel sampling system (ASTM 2234-76 Type I, Condition A, B, or C, with systematic spacing) shall be used to determine the SO_2 input rate at the boiler inlet as described in Method 19, Section 3. The percent reduction shall be calculated using the arithmetic average of the daily average emission based on hourly emission rates from the SO_2/CEM and the arithmetic average of the daily SO_2 input from the "as fired" fuel analyses for thirty (30) successive boiler operation days. All data and calculations made by the owner/operator under this condition shall be maintained at the plant in a form suitable for inspection for at least five years after the data collection and calculation. Each daily verification of compliance shall be made no later than 72 hours after the daily "as fired" fuel sample is collected.

Authority for Requirement: Condition 7 – PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Be, Pb, and F Compliance - Low Sulfur Western Coal, or Equivalent

After the initial compliance tests[(7)], the owner/operator shall collect a 24-hour representative coal sample at a frequency of at least once every two weeks and whenever the owner/operator changes the coal supply fired in Boiler 1. Coal sampling and analyses (CSA) under this condition is not required if the subject boiler is not operated during the two-week period or if the boiler is operated on a fuel other than coal. Each composite sample shall meet the sampling requirements for special purpose sampling of ASTM D2234-76. In addition, the composite sample collection classification shall meet Type I, Condition A, B, or C, with systematic spacing, as defined by ASTM D2234-76. The composite sample shall be collected as close to an "as fired" condition as practicable. The proposed location, sampling, and analytical collection methodology shall be submitted to the EPA regional office for approval prior to operation of Boiler 1.

For each coal sample collected after the initial compliance test, the owner/operator shall obtain an analysis of the Be, Pb, and F content within two (2) weeks of sample collection.

After the first operating year of the PSD-approved Boiler on the herein-approved low sulfur western coal (or equivalent), the owner/operator may request a revision of (including the

elimination of) the sampling frequency if a lesser frequency appears appropriate. Of its own accord, the EPA may also revise the frequency and/or the CSA procedures of this condition if it determines that a revision is needed for verification of compliance with the Be, Pb, and F emission limits of *Limits When Burning Low Sulfur Western Coal, or Equivalent*, above.

The Be, Pb, and F concentrations that are determined through the above sampling and analyses procedures shall serve as an indicator of probable compliance (or noncompliance) with the BACT emission limit. When requested to do so by the EPA regional office, a formal verification of compliance through stack testing of boiler emissions (with subsequent submittal of a report of the test) shall be conducted by the owner/operator at the owner/operator's expense.
Authority for Requirement: Condition 11 – PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

(7) All initial tests and pretests had been conducted at the time of the Operating Permit issuance.

Stack Testing:

Pollutant - Particulate Matter (PM)
Stack Test to be Completed by (date)- September 4, 2002
Test Method - Iowa Compliance Sampling Method
Authority for Requirement - 567 IAC 22.108(3)

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - Condition V, Iowa DNR Conditional Permit 86-A-127
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - Condition V, Iowa DNR Conditional Permit 86-A-127
Reporting & Record keeping - Submit all reports and petitions as required by Condition VII, Iowa DNR Conditional Permit 86-A-127, and 40 CFR 60.49b to the Iowa DNR to demonstrate compliance with the 10% opacity limit.
Authority for Requirement: Iowa DNR Conditional Permit 86-A-127
40 CFR 60 Subpart Db

Pollutant - Sulfur Dioxide (SO_2)
Operational Specifications - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.
Date of Initial System Calibration and Quality Assurance - November 9, 1989
Ongoing System Calibration/Quality Assurance - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.
Reporting & Record keeping - Submit all reports and petitions as required by Condition 2E - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, Modified June 3, 1988 to the Iowa DNR to demonstrate compliance with the SO_2 emission limit.
Authority for Requirement - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.

Pollutant - Nitrogen Oxides (NO_x)
Operational Specifications - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.
Date of Initial System Calibration and Quality Assurance - November 9, 1989
Ongoing System Calibration/Quality Assurance - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.
Reporting & Record keeping - Submit all reports and petitions as required by Condition 2E - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988, and 40 CFR 60.49b to the Iowa DNR to demonstrate compliance with the NO_x emission limit.
Authority for Requirement - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.
40 CFR 60 Subpart Db

Other Parameters

Pollutant - Carbon Dioxide (CO_2)
Operational Specifications - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.
Date of Initial System Calibration and Quality Assurance -November 9, 1989
Ongoing System Calibration/Quality Assurance - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.
Authority for Requirement - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment:
Particulate Matter and Sulfur Oxides.

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Baghouse Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B1	CFB Boiler 1
Emission Point:	S	Tall Stack
Control Equipment:	BGH1	Pulse Jet Baghouse

Monitoring Guidelines
The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range.

MONITORING METHODS AND CORRECTIVE ACTION

General
Periodic Monitoring is not required during periods of time greater than one day in which Boiler 1 does not operate.

Routine Operations
Daily baghouse operating requirements include monitoring and evaluation of various parameters, recordkeeping, preventative maintenance, and the appropriate response to any malfunctions. Fly ash collected by the baghouse is removed from hoppers on the bottom of the baghouse by a pneumatic ash conveying system.

Preventative Maintenance
The power plant has a preventive maintenance schedule and documents corrective maintenance history. The following maintenance tasks will be scheduled and work requests will be generated for all corrective maintenance required.

Weekly
- Check differential pressure across the bags, for each of the 6 compartments in the baghouse. Verify pressure is within the manufacturer's recommended operating range.
- Inspect compressed air pulsing system for any abnormal conditions.
- Inspect hopper gates and piping for signs of jamming, leaks, wear or broken parts.

Annually
- Inspect baghouse compartments during annual outage.

Equipment Monitoring Methods
Performance of the baghouse may be monitored by observing differential pressure readings on various operator interface screens for boiler 1. Additionally, the status of the on-line cleaning system is available on a panel in the boiler operator area. Continuous opacity monitoring is recorded in the continuous emissions monitor data acquisitions system (CEMDAS) and displayed on the CEMDAS operator interface. Boiler 1 opacity is also displayed on the control

panel and the operator interface screens. Alarms are provided on the local panel for high baghouse differential pressure, high baghouse inlet and high baghouse outlet temperatures, and general baghouse trouble.

Performance Criteria
Baghouse performance assessments may be accomplished by reviewing the operator interface and Boiler 1 daily opacity report and monitoring boiler 1 operator interfaces. Certain boiler transients produce temporary baghouse differential pressure excursions. Examples include sootblowing operations and rapid changes in boiler load. However, these transients should not produce a noticeable change in opacity.

Recordkeeping and Reporting
Operational records will be kept and maintained at the power plant for a period of five years and will be available for review upon request by the DNR. Records to be kept include:

- Boiler 1 CEMDAS daily opacity report.
- Boiler 1 operator logs.
- Preventative and corrective maintenance history will be maintained in the power plant.
- Reports - Quarterly reports will be generated that include times and duration of all instances of data recorded that were outside of an indicated performance range. The report will also include a certification that corrective actions were promptly taken or a statement that all readings were within the performance range.
- Submit all reports and petitions required by 40 CFR 60 to the Iowa DNR in order to demonstrate compliance with continuous emission monitoring.
- A spare parts inventory will be available.

Quality Control
The following quality control measures will be implemented in association with the operation of the boiler 1 baghouse:
- All instruments and equipment will be calibrated, maintained, and operated according to manufacturer specifications.
- Any non-exempt visible emission in excess of 10 percent which continues for a period of 30 minutes or longer or any six-minute period of more than 20 percent opacity will be reported and corrective action will be taken to correct the problem.

This Operation and Maintenance Plan will be available for review at the power plant.

Fluidized Bed (Pulverized Limestone)
Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B1	CFB Boiler 1
Emission Point:	S	Tall Stack
Control Equipment:	CFB1	SO_2 Emission Control System
Monitoring Equipment:	S1	Boiler 1 SO_2 Monitor

Monitoring Guidelines

The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range. An excursion does not necessarily indicate a violation of an applicable requirement.

The maximum SO_2 emission rate permitted on Boiler 1 is 1.42 lb./MMBtu heat input (3-hour rolling average), ninety percent (90%) reduction (or greater) or 1.0 lb./MMBtu heat input (30-day rolling average), when burning Iowa Coal (or equivalent), and 1.42 lb./MMBtu heat input (3-hour rolling average), sixty percent (60%) reduction (or greater) or 0.2 lb./MMBtu heat input (30-day rolling average), when burning Low Sulfur Western Coal (or equivalent).

MONITORING METHODS AND CORRECTIVE ACTION

General

Periodic Monitoring is not required during periods of time greater than one day in which Boiler 1 does not operate.

Routine Operation

Daily SO_2 emission control system operating requirements include monitoring and evaluation of various parameters, recordkeeping, preventative maintenance, and the appropriate response to any malfunctions.

Preventative Maintenance

The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance tasks will be scheduled and work requests will be generated for all corrective maintenance required.

Daily

- Calibration of CEM Monitors.
- Verify results of calibration.
- Inspection of monitors for abnormal conditions.

Quarterly

- Cylinder gas audit – except RATA quarter.

Annually

- Relative Accuracy Test Audit (RATA).
- Inspect all monitor and sample inlet filters.
- Inspect SO_2 capillary and probe.

Equipment Monitoring Methods

Performance of the SO_2 emission control system may be monitored by observing SO_2 emission rates on operator interface screens for boiler 1 and the continuous emission monitoring system data acquisition system (CEMDAS). High emission rate alarms are provided on the CEMDAS. operator interface. Additionally, the status of the SO_2 emission rate is recorded in the CEM. SO_2 emission levels and limestone feed rates are also trended on the control system operator interface screens and control panel.

Performance Criteria

SO_2 emission control system performance assessments may be accomplished by reviewing the CEMDAS information and Boiler 1 daily SO_2 emission and percent reduction reports and monitoring boiler 1 operator interfaces. Certain boiler transients temporarily produce large variation in SO_2 emission rates. Examples include sootblowing operations and rapid changes in boiler load. However, these transients should not produce a prolonged change in the SO_2 emission rate:

In the event the SO_2 emission rate is outside normal limits, corrective action will be initiated as follows:

- Immediately check limestone conveying system and ensure it is functioning normally. Problems may be caused by limestone air blowers with plugged filters or broken belts, limestone feeders plugged with material, or limestone not flowing from the bottom of the limestone storage silo due to material bridged over.
- Should the SO_2 emission rate exceed 1.0 lb./MMBtu, notify maintenance staff and initiate troubleshooting and repair procedures within eight (8) hours.
- Should the SO_2 emission rate exceed 1.3 lb./ MMBtu for two hours, and correction of the problem is not imminent, transfer boiler 1 steam production requirements to other steam production equipment.

Recordkeeping and Reporting

Operational records will be kept and maintained at the power plant for a period of five years and will be available for review upon request by a regulating agency. Records to be kept include:

- Boiler 1 CEMDAS daily emission reports.
- Boiler 1 operator logs.
- Corrective maintenance history will be maintained in the power plant maintenance log.

Quality Control
The following quality control measures will be implemented in association with the operation of the Boiler 1 SO_2 emission control system.

- All instruments and equipment will be calibrated, maintained and operated according to manufacturer specifications.
- Any excessive SO_2 emissions will be reported and corrective action will be taken to correct the problem.

This Operation and Maintenance Plan will be available for review at the power plant.

Applicable Requirements

Emission Unit vented through this Emission Point: B2
Emission Unit Description: Circulating Fluidized Bed Combustion Boiler
Raw Material/Fuel: Coal
Rated Capacity: 235 MMBtus of input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 10%(1)
Authority for Requirement: Iowa DNR Conditional Permit 86-A-128
(1) When B1 and/or B2 are fired with any of the other boilers Emission Limit: 30%
When neither B1 or B2 are fired and only the other boilers are fired Emission Limit: 40%
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.034 lbs/MMBtus of input and 70 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-128

Limits When Burning Iowa Coal, or Equivalent(2)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 1.0 lb./MMBtus of input, 30 day rolling average(3)
(3) Not to exceed 10% of the potential SO_2 emissions (90% reduction of potential SO_2 emissions without SO_2 absorption), 30-day rolling average.
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 1.42 lb./MMBtus of input, rolling 3-hour average.
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 0.40 lb./MMBtus of input, 3-hour average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 200 ppm (34.03 lb./hr, 0.145 lb./MMBtu), 3-hour average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Fluorides (F)
Emission Limit(s): 9.124 lb./hr (0.039 lb./MMBtu), 3-hour average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Lead (Pb)
Emission Limit(s): 0.366 lb./hr (0.0015 lb./MMBtu), 3-hour (minimum) average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Beryllium (Be)
Emission Limit(s): 0.148 lb./hr (0.00063 lb./MMBtu), 3-hour (minimum) average
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

(2) Each standard applies at all times except during periods of start-up, shutdown, and malfunction. Each standard is applicable to each approved boiler (boilers B1 and B2) unless otherwise stated.
Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Limits When Burning Low Sulfur Western Coal(4,5), or Equivalent

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.2 lb./MMBtu, 30 day rolling average(6)
(6) Said gasses shall not exceed 40% (60% reduction) of the potential SO_2 emission rate, rolling 30-day average, for the Rochelle-approved coal.
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 1.42 lb./MMBtu, rolling 3-hour average.
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 0.40 lb./MMBtu, 3-hour average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 200 ppm (0.145 lb./MMBtu), 3-hour average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Fluorides (F)
Emission Limit(s): 0.007 lb./MMBtu, 3-hour average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Lead (Pb)
Emission Limit(s): 0.000016 lb./MMBtu, 3-hour (minimum) average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant: Beryllium (Be)
Emission Limit(s): 0.00000066 lb./MMBtu, 3-hour (minimum) average
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

(4) Each standard applies to each of the PSD-approved CFBC boilers. The emissions from said boilers shall not be averaged for purposes of verification of compliance of the emission standards.
(5) Only the Rochelle coal, or its equivalent, is approved under this amendment to the permit. "Rochelle coal" means the coal supply mentioned in ISU's letter of March 20, 1987. "Low-sulfur western coal" as used in this letter means said "Rochelle coal".
Authority for Requirement: Condition 1A - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:
1. This boiler is limited to a maximum heat input rating of 235 million BTU's per hour (MMBtu/hr) or a maximum rated steam production capacity of 170,000 lb./hr @ 420 psig, and 750 degrees F.

Authority for Requirement: Condition 1 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

2. This boiler is restricted to coal, with gas and/or oil start-up. The owner/operator must receive the PSD implementing agency's approval if the owner/operator wants to burn a fuel other than coal in the boiler(s) on a continuous or trial basis. At that time, the agency may impose BACT emission standards (including a percent reduction requirement) for the other fuel type(s) in question even if an emission reduction will occur. Other PSD-related provisions (e.g., ambient air quality analyses) may also be imposed. For the purposes of this permit,

"coal" means the coal supply (or similar, midwestern, coal supplies) which was used by the agency in setting the SO_2 BACT emission limitations set under "Limits When Burning Iowa Coal, or Equivalent" above.

Authority for Requirement: Condition 8 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

3. Only Iowa coal (or its equivalent) or the Rochelle coal supply (or its equivalent), as reviewed and approved by the EPA regional office may be burned in the PSD-approved CFBC boilers. Combinations of said fuels is not allowed without the prior approval of the EPA regional office and without the prior modification of the 12/20/86 letter, as deemed necessary by the EPA regional office. The provisions of this condition do not supersede the restrictions/requirements of the above fuel restrictions.

Authority for Requirement: Condition 13 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Reporting & Record keeping:

1. All records required to be kept by the owner/operator under this permit shall be available at the plant during normal business hours in a form suitable for inspections by federal or state air pollution regulatory agencies, and their authorized representatives, for at least five (5) years from the date of their recording.

Authority for Requirement: Condition 10 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

2. The owner/operator shall notify the EPA regional office whenever the owner/operator changes from one approved fuel supply to another approved fuel supply. Said notification shall be by letter, postmarked no later than two weeks (14 calendar days) after the date of the switch. The provisions of this condition do not supersede the restrictions/requirements of no. 2, *Process throughput*, above. The owner/operator shall record and maintain records, on a daily basis, of the type(s) of fuel combusted in the CFBC boilers on that day. Each such record shall be maintained by the owner/operator for at least five (5) years.

Authority for Requirement: Condition 12 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

SO_2 Emissions Reduction Compliance

The owner/operator must demonstrate at least a 90 percent reduction of the potential SO_2 emission rate when burning Iowa coal, or equivalent, and at least a 60 percent reduction of the potential SO_2 emission rate when burning low sulfur western coal, or equivalent on a 30-day rolling average. The reduction is to be calculated as shown below.

The arithmetic average of all daily average emission rates measured at the boiler outlet (CEM) shall be determined for 30 successive boiler operating days, following the procedures as set forth in Method 19, Section 3 of 40 CFR Part 60, Appendix A. An "as fired" fuel sampling system (ASTM 2234-76 Type I, Condition A, B, or C, with systematic spacing) shall be used to determine the SO_2 input rate at the boiler inlet as described in Method 19, Section 3. The percent reduction shall be calculated using the arithmetic average of the daily average emission based on hourly emission rates from the SO_2/CEM and the arithmetic average of the daily SO_2 input from the "as fired" fuel analyses for thirty (30) successive boiler operation days. All data and calculations made by the owner/operator under this condition shall be maintained at the plant in a form suitable for inspection for at least five years after the data collection and calculation. Each daily verification of compliance shall be made no later than 72 hours after the daily "as fired" fuel sample is collected.

Authority for Requirement: Condition 7 – PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Be, Pb, and F Compliance - Low Sulfur Western Coal, or Equivalent

After the initial compliance tests[(7)], the owner/operator shall collect a 24-hour representative coal sample at a frequency of at least once every two weeks and whenever the owner/operator changes the coal supply fired in Boiler 2. Coal sampling and analyses (CSA) under this condition is not required if the subject boiler is not operated during the two-week period or if the boiler is operated on a fuel other than coal. Each composite sample shall meet the sampling requirements for special purpose sampling of ASTM D2234-76. In addition, the composite sample collection classification shall meet Type I, Condition A, B, or C, with systematic spacing, as defined by ASTM D2234-76. The composite sample shall be collected as close to an "as fired" condition as practicable. The proposed location, sampling, and analytical collection methodology shall be submitted to the EPA regional office for approval prior to operation of Boiler 2.

For each coal sample collected after the initial compliance test, the owner/operator shall obtain an analysis of the Be, Pb, and F content within two (2) weeks of sample collection.

After the first operating year of the PSD-approved Boiler on the herein-approved low sulfur western coal (or equivalent), the owner/operator may request a revision of (including the elimination of) the sampling frequency if a lesser frequency appears appropriate. Of its own accord, the EPA may also revise the frequency and/or the CSA procedures of this condition if it

determines that a revision is needed for verification of compliance with the Be, Pb, and F emission limits of Condition 1.

The Be, Pb, and F concentrations that are determined through the above sampling and analyses procedures shall serve as an indicator of probable compliance (or noncompliance) with the BACT emission limit. When requested to do so by the EPA regional office, a formal verification of compliance through stack testing of boiler emissions (with subsequent submittal of a report of the test) shall be conducted by the owner/operator at the owner/operator's expense.
Authority for Requirement: Condition 11 – PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

(7) All initial tests and pretests had been conducted at the time of the Operating Permit issuance.

Stack Testing:

Pollutant - Particulate Matter (PM)
Stack Test to be Completed by (date)- September 4, 2002
Test Method - Iowa Compliance Sampling Method
Authority for Requirement - 567 IAC 22.108(3)

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - Condition V, Iowa DNR Conditional Permit 86-A-128
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - Condition V, Iowa DNR Conditional Permit 86-A-127
Reporting & Record keeping - Submit all reports and petitions as required by Condition VII, Iowa DNR Conditional Permit 86-A-127, and 40 CFR 60.49b to the Iowa DNR to demonstrate compliance with the 10% opacity limit.
Authority for Requirement: Iowa DNR Conditional Permit 86-A-128
40 CFR 60 Subpart Db

Pollutant - Sulfur Dioxide (SO_2)
Operational Specifications - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.
Date of Initial System Calibration and Quality Assurance - November 9, 1989
Ongoing System Calibration/Quality Assurance - Condition 2 - PSD Permit issued by . 15, 1986, modified June 3, 1988.
Reporting & Record keeping - Submit all reports and petitions as required by Condition 2E - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, Modified June 3, 1988 to the Iowa DNR to demonstrate compliance with the SO_2 emission limit.
Authority for Requirement - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

Pollutant - Nitrogen Oxides (NO_x)
Operational Specifications - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.
Date of Initial System Calibration and Quality Assurance - November 9, 1989
Ongoing System Calibration/Quality Assurance - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.
Reporting & Record keeping - Submit all reports and petitions as required by Condition 60.49b to the Iowa DNR to demonstrate compliance with the NO_x emission limit.
Authority for Requirement - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.
40 CFR 60 Subpart Db

Other Parameters

Pollutant - Carbon Dioxide (CO_2)
Operational Specifications - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15,1986, modified June 3, 1988.
Date of Initial System Calibration and Quality Assurance -November 9, 1989
Ongoing System Calibration/Quality Assurance - Condition 2 - PSD Permit issued by on 7 EPA on Dec. 15, 1986, modified June 3, 1988.
Authority for Requirement - Condition 2 - PSD Permit issued by Region 7 EPA on Dec. 15, 1986, modified June 3, 1988.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment:
Particulate Matter and Sulfur Oxides.

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Baghouse Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B2	CFB Boiler 2
Emission Point:	S	Tall Stack
Control Equipment:	BGH2	Pulse Jet Baghouse

Monitoring Guidelines
The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range.

MONITORING METHODS AND CORRECTIVE ACTION

General
Periodic Monitoring is not required during periods of time greater than one day in which Boiler 2 does not operate.

Routine Operations
Daily baghouse operating requirements include monitoring and evaluation of various parameters, recordkeeping, preventative maintenance, and the appropriate response to any malfunctions. Fly ash collected by the baghouse is removed from hoppers on the bottom of the baghouse by a pneumatic ash conveying system.

Preventative Maintenance
The power plant has a preventive maintenance schedule and documents corrective maintenance history. The following maintenance tasks will be scheduled and work requests will be generated for all corrective maintenance required.

Weekly
- Check differential pressure across the bags, for each of the 6 compartments in the baghouse. Verify pressure is within the manufacturer's recommended operating range.
- Inspect compressed air pulsing system for any abnormal conditions.
- Inspect hopper gates and piping for signs of jamming, leaks, wear or broken parts.

Annually
- Inspect baghouse compartments during annual outage.

Equipment Monitoring Methods
Performance of the baghouse may be monitored by observing differential pressure readings on various operator interface screens for boiler 2. Additionally, the status of the on-line cleaning system is available on a panel in the boiler operator area. Continuous opacity monitoring is recorded in the continuous emissions monitor data acquisitions system (CEMDAS) and displayed on the CEMDAS operator interface. Boiler 2 opacity is also displayed on the control

panel and the operator interface screens. Alarms are provided on the local panel for high baghouse differential pressure, high baghouse inlet and high baghouse outlet temperatures, and general baghouse trouble.

Performance Criteria
Baghouse performance assessments may be accomplished by reviewing the operator interface and Boiler 2 daily opacity report and monitoring boiler 2 operator interfaces. Certain boiler transients produce temporary baghouse differential pressure excursions. Examples include sootblowing operations and rapid changes in boiler load. However, these transients should not produce a noticeable change in opacity.

Recordkeeping and Reporting
Operational records will be kept and maintained at the power plant for a period of five years and will be available for review upon request by the DNR. Records to be kept include:

- Boiler 2 CEMDAS daily opacity report.
- Boiler 2 operator logs.
- Preventative and corrective maintenance history will be maintained in the power plant.
- Reports - Quarterly reports will be generated that include times and duration of all instances of data recorded that were outside of an indicated performance range. The report will also include a certification that corrective actions were promptly taken or a statement that all readings were within the performance range.
- Submit all reports and petitions required by 40 CFR 60 to the Iowa DNR in order to demonstrate compliance with continuous emission monitoring.
- A spare parts inventory will be available.

Quality Control
The following quality control measures will be implemented in association with the operation of the boiler 2 baghouse:

- All instruments and equipment will be calibrated, maintained, and operated according to manufacturer specifications.
- Any non-exempt visible emission in excess of 10 percent which continues for a period of 30 minutes or longer or any six-minute period of more than 20 percent opacity will be reported and corrective action will be taken to correct the problem.

This Operation and Maintenance Plan will be available for review at the power plant.

Fluidized Bed (Pulverized Limestone)
Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B2	CFB Boiler 2
Emission Point:	S	Tall Stack
Control Equipment:	CFB2	SO_2 Emission Control System
Monitoring Equipment:	S2	Boiler 2 SO_2 Monitor

Monitoring Guidelines

The Iowa State University Power plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range. An excursion does not necessarily indicate a violation of an applicable requirement.

The maximum SO_2 emission rate permitted on Boiler 2 is 1.42 lb./MMBtu heat input (3-hour rolling average), ninety percent (90%) reduction (or greater) or 1.0 lb./MMBtu heat input (30-day rolling average), when burning Iowa Coal (or equivalent), and 1.42 lb./MMBtu heat input (3-hour rolling average), sixty percent (60%) reduction (or greater) or 0.2 lb./MMBtu heat input (30-day rolling average), when burning Low Sulfur Western Coal (or equivalent).

MONITORING METHODS AND CORRECTIVE ACTION

General

Periodic Monitoring is not required during periods of time greater than one day in which Boiler 2 does not operate.

Routine Operation

Daily SO_2 emission control system operating requirements include monitoring and evaluation of various parameters, recordkeeping, preventative maintenance, and the appropriate response to any malfunctions.

Preventative Maintenance

The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance tasks will be scheduled and work requests will be generated for all corrective maintenance required.

Daily

- Calibration of CEM Monitors.
- Verify results of calibration.
- Inspection of monitors for abnormal conditions.

Quarterly

- Cylinder gas audit – except RATA quarter.

Annually

- Relative Accuracy Test Audit (RATA).
- Inspect all monitor and sample inlet filters.
- Inspect SO_2 capillary and probe.

Equipment Monitoring Methods

Performance of the SO_2 emission control system may be monitored by observing SO_2 emission rates on operator interface screens for boiler 2 and the continuous emission monitoring system data acquisition system (CEMDAS). High emission rate alarms are provided on the CEMDAS. operator interface. Additionally, the status of the SO_2 emission rate is recorded in the CEM. SO_2 emission levels and limestone feed rates are also trended on the control system operator interface screens and control panel.

Performance Criteria

SO_2 emission control system performance assessments may be accomplished by reviewing the CEMDAS information and Boiler 2 daily SO_2 emission and percent reduction reports and monitoring boiler 1 operator interfaces. Certain boiler transients temporarily produce large variation in SO_2 emission rates. Examples include sootblowing operations and rapid changes in boiler load. However, these transients should not produce a prolonged change in the SO_2 emission rate:

In the event the SO_2 emission rate is outside normal limits, corrective action will be initiated as follows:

- Immediately check limestone conveying system and ensure it is functioning normally. Problems may be caused by limestone air blowers with plugged filters or broken belts, limestone feeders plugged with material, or limestone not flowing from the bottom of the limestone storage silo due to material bridged over.
- Should the SO_2 emission rate exceed 1.0 lb./MMBtu, notify maintenance staff and initiate troubleshooting and repair procedures within eight (8) hours.
- Should the SO_2 emission rate exceed 1.3 lb./ MMBtu for two hours, and correction of the problem is not imminent, transfer boiler 2 steam production requirements to other steam production equipment.

Recordkeeping and Reporting

Operational records will be kept and maintained at the power plant for a period of five years and will be available for review upon request by a regulating agency. Records to be kept include:

- Boiler 2 CEMDAS daily emission reports.
- Boiler 2 operator logs.
- Corrective maintenance history will be maintained in the power plant maintenance log.

Quality Control
The following quality control measures will be implemented in association with the operation of the Boiler 2 SO_2 emission control system.

- All instruments and equipment will be calibrated, maintained and operated according to manufacturer specifications.
- Any excessive SO_2 emissions will be reported and corrective action will be taken to correct the problem.

This Operation and Maintenance Plan will be available for review at the power plant.

Applicable Requirements

Emission Unit vented through this Emission Point: B3
Emission Unit Description: Spreader Stoker Boiler (Coal Fired)
Raw Material/Fuel: Coal
Rated Capacity: 220.4 MMBtus of heat input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtus of heat input
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_x)
Emission Limit(s): 6 lb./MMBtus of heat input
Authority for Requirement: 567 IAC 23.3(3)"a"(3)

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Boilers B3 and B4 shall be limited to a combined annual steam production of 1,272,245,110 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:

Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing:

Pollutant - Particulate Matter (PM)
1st Stack Test to be Completed by (date) – September 4, 2001
2nd Stack Test to be Completed between (dates) – March 4, 2003 and March 4, 2004
Test Method - Iowa Compliance Sampling Method
Authority for Requirement - 567 IAC 22.108(3)

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Operation & Maintenance Plan listed below, under Emission Unit B3-G.

Applicable Requirements

Emission Unit vented through this Emission Point: B3-G
Emission Unit Description: Spreader Stoker Boiler (Natural Gas Fired)
Raw Material/Fuel: Natural Gas
Rated Capacity: 220.4 MMBtus of heat input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtus of heat input
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Boilers B3 and B4 shall be limited to a combined annual steam production of 1,272,245,110 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:

Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Electrostatic Precipitator Agency Operation & Maintenance Plan

Facility:		Iowa State University Power Plant
EIQ Number:		92-2776
Emission Unit:	B3	Spreader Stoker Boiler 3 (Coal Fired)
Emission Point:	S	Tall Stack
Control Equipment:	P3	Electrostatic Precipitator 3

MONITORING GUIDELINES

The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range.

MONITORING METHODS AND CORRECTIVE ACTION

General
Periodic Monitoring is not required during periods of time greater than one day in which the source does not operate.

Routine Operation
Daily precipitator operating requirements include monitoring and evaluation of various parameters, record keeping, preventative maintenance, and the appropriate response to any malfunctions. Fly ash collected by the precipitator is removed from hoppers on the bottom of the precipitator by a pneumatic ash conveying system. Occasionally, ash will bridge over in the hoppers and the hopper will not completely empty. Ash will subsequently build up into the operating portion of the precipitator and interfere with normal precipitator operation. The plant operations staff will visually check precipitator ash hoppers, once per shift, to verify proper operation of the ash system.

Preventative Maintenance
The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance will be scheduled and work requests will be generated for all corrective maintenance required.

Once Per Operating Shift
- Operators will monitor the ash removal system for normal conveying conditions at the precipitator hoppers.

Weekly
- A thorough check of T-R set control room, control units and fans, and the HVAC system will be conducted.
- A thorough check of rapper operation will be conducted. Each rapper or rapper system should activate. Those that do not activate will be scheduled for repair or replacement.
- A thorough check of penthouse pressurization fan operation will be conducted. Pressurization fans and heaters should be operating normally.

If any discrepancies are found, repairs will be scheduled.

Semi-Annual

- Inspect and clean insulators, rapper controls, T-R set controls and relays, and hopper heaters and controls.
- Inspect penthouse pressurizing fans.
- Inspect penthouse pressurizing fan heaters.

Annual

- Visually examine electrode alignment.
- Visually inspect for collection surface fouling.
- Visually inspect T-R set mechanical condition.
- Visually inspect internal structural components.

Corrective action measures will be devised and implemented on the occurrence of an abnormal condition. The appropriate measures for remediation will be implemented in a timely manner.

Equipment Monitoring Methods

The performance of the precipitator may be monitored by the meters (voltage and current) located on the remote control cabinet. Continuous common stack opacity monitoring is shown on operator interface screens and the continuous emission monitoring system data acquisition system (CEMDAS). The precipitator control panel has alarms to notify the operator on duty of abnormal conditions. Alarms are provided for high voltage fault, stand by vent fan failure, operating vent fan failure, rapper failure, high dust level and penthouse low pressure.

Performance Criteria

Precipitator performance assessments may be accomplished by reviewing boiler 3 operating logs and the common stack opacity monitor readings. The common stack opacity monitor is used to monitor this boiler as well as other boilers, and any excursions must be reviewed to determine the source before any actions can be taken. Certain boiler transients produce temporary opacity excursions. Examples include soot blowing operations, coal combustion problems, and rapid changes in boiler load.

The maximum opacity permitted on the common stack, if boiler 1 and/or boiler 2 is operating, is thirty (30) percent. If boiler 1 and boiler 2 are not operating, the common stack opacity limit is forty (40) percent. These limits are for any six-minute period in one hour.

In the event that precipitator parameters are operating outside normal limits, corrective action will be initiated as follows:

- Immediately check precipitator ash hoppers and ensure they are not bridged over and causing a build-up of ash which is interfering with precipitator operation.
- Check multiclones for proper operation.
- Check ash removal system for proper operation.

- Should continuous opacity level rise fifteen (15) percent above normal levels, immediately investigate for source of increase and continue monitoring operation to determine the proper course of action. Initiate operational correction or repair procedures within twelve (12) hours.
- Should continuous opacity levels continue to rise and correction of the problem is not imminent, transfer boiler steam production requirements to other steam production equipment.

Recordkeeping & Reporting
Operational records will be kept and maintained at the power plant for a period of five (5) years. They will be available for review upon request by a regulating agency. These records will include:

- Boiler 3 operator logs.
- Common stack CEMDAS opacity daily reports.
- A written or electronic record of all maintenance and inspections and any action resulting from the inspection.

Quality Control
The following quality control measures will be implemented in association with the operation of the ESP:

- The common stack opacity monitor will be automatically calibrated for zero and span adjustments daily. Plant staff will verify the results of this calibration.
- All instruments and control equipment will be maintained and operated according to the manufacturer specifications.
- Any visible emission, in excess of the permitted limit for one six-minute period in one hour, will be reported and corrective action will be taken to correct the problem.
- A spare parts inventory will be available.

This Operation and Maintenance Plan will be available for review at the power plant.

Multiclone Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B3, B3-G	Spreader Stoker Boiler 3 (Coal or Natural Gas Fired)
Emission Point:	S	Tall Stack
Control Equipment:	DC3	Multiclone Separator

Monitoring Guidelines

The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range. An excursion does not necessarily indicate a violation of an applicable requirement.

MONITORING METHODS AND CORRECTIVE ACTION

General

Periodic Monitoring is not required during periods of time greater than one day in which Boiler 3 does not operate.

Routine Operation

Fly ash collected by the multiclone hoppers is discharged into the ash collection system. Occasionally, ash may bridge over in the hoppers or the hopper will not completely empty. Ash may subsequently build up into the operating portion of the multiclone and interfere with normal operation. The plant operations staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indicating a flow of ash from the multiclone hoppers.

Preventative Maintenance

The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance will be scheduled and work requests will be generated for all corrective maintenance required.

Daily

- Plant staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indication a flow of ash from the hoppers.
- Inspect the solids discharge valve for proper operation.

If abnormal conditions are detected, the appropriate measures for remediation will be implemented within twelve (12) hours.

Semi-Annually

- Inspect units during boiler outages.

Annually

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be removed to ensure proper operation.
- Clean cyclone inlet vanes (ramps or spinners) and ensure they operate according to manufacture specifications.

If leaks or abnormal conditions are detected, the appropriate measures for remediation will be implemented before the system is returned to service.
Maintain a written record of the observations, deficiencies, and any action resulting from the inspection.

Equipment Monitoring Methods

Continuous common stack opacity monitoring is shown on operator interface screens and the continuous emission monitoring system data acquisition system (CEMDAS). A plugged hopper would be indicated by a cool hopper outlet pipe, normally these are hot to touch.

Performance Criteria

Multiclone performance assessments may be accomplished by reviewing boiler 3 operating logs and the common stack opacity monitor readings. The common stack opacity monitor is used to monitor the boiler as well as other boilers, and any excursions must be reviewed to determine the source before any actions can be taken. Certain boiler transients produce temporary opacity excursions. Examples include soot blowing operations, coal combustion problems, and rapid changes in boiler load.

The maximum opacity permitted on the common stack, if boiler 1 and/or boiler 2 is operating, is thirty (30) percent. If boiler 1 and boiler 2 are not operating, the common stack opacity limit is forty (40) percent. These limits are for any six-minute period in one hour.
In the event that multiclone parameters are operating outside normal limits, corrective action will be initiated as follows:

- Check the multiclones for proper operation.
- Check the ash removal system for proper operation.
- Check the precipitator ash hoppers and ensure they are not interfering with multiclone operation.
- Should continuous opacity level rise fifteen (15) percent above normal levels, immediately investigate for source of increase and continue monitoring operation to determine the proper course of action. Initiate operational correction or repair procedures within twelve (12) hours.

- Should continuous opacity levels continue to rise and correction of the problem is not imminent, transfer boiler steam production requirements to other steam production equipment.

Recordkeeping & Reporting

Operational records will be kept and maintained at the power plant for a period of five (5) years. They will be available for review upon request by a regulating agency. These records will include:

- Boiler 3 operator logs.
- CEMDAS common stack daily opacity summary reports.
- A written or electronic record of all maintenance and inspections and any action resulting from the inspections.

Quality Control

The following quality control measures will be implemented in association with the operation of the multiclone:

- Any non-exempt visible emissions in excess of permitted limits, for one six-minute period in one hour, will be reported and corrective action will be taken to correct the problem.
- A spare parts inventory will be available.

This Operation and Maintenance Plan will be available for review at the power plant.

Applicable Requirements

Emission Unit vented through this Emission Point: B4
Emission Unit Description: Spreader Stoker Boiler (Coal Fired)
Raw Material/Fuel: Coal
Rated Capacity: 235.1 MMBtus of heat input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtus of heat input
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_x)
Emission Limit(s): 6 lb./MMBtus of heat input
Authority for Requirement:567 IAC 23.3(3)"a"(3)

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Boilers B3 and B4 shall be limited to a combined annual steam production of 1,272,245,110 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:

Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing:

Pollutant - Particulate Matter
1st Stack Test to be Completed by (date) – September 4, 2001
2nd Stack Test to be Completed between (dates) – March 4, 2003 and March 4, 2004
Test Method - Iowa Compliance Sampling Manual
Authority for Requirement - 567 IAC 22.108(3)

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Operation & Maintenance Plan listed below, under Emission Unit B4-G.

Applicable Requirements

Emission Unit vented through this Emission Point: B4-G
Emission Unit Description: Spreader Stoker Boiler (Natural Gas Fired)
Raw Material/Fuel: Natural Gas
Rated Capacity: 235.1 MMBtus of heat input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtus of heat input
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Boilers B3 and B4 shall be limited to a combined annual steam production of 1,272,245,110 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:

Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Electrostatic Precipitator Agency Operation & Maintenance Plan

Facility:		Iowa State University Power Plant
EIQ Number:		92-2776
Emission Unit:	B4	Spreader Stoker Boiler 4 (Coal Fired)
Emission Point:	S	Tall Stack
Control Equipment:	P4	Electrostatic Precipitator 4

MONITORING GUIDELINES

The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range.

MONITORING METHODS AND CORRECTIVE ACTION

General
Periodic Monitoring is not required during periods of time greater than one day in which the source does not operate.

Routine Operation
Daily precipitator operating requirements include monitoring and evaluation of various parameters, record keeping, preventative maintenance, and the appropriate response to any malfunctions. Fly ash collected by the precipitator is removed from hoppers on the bottom of the precipitator by a pneumatic ash conveying system. Occasionally, ash will bridge over in the hoppers and the hopper will not completely empty. Ash will subsequently build up into the operating portion of the precipitator and interfere with normal precipitator operation. The plant operations staff will visually check precipitator ash hoppers, once per shift, to verify proper operation of the ash system.

Preventative Maintenance
The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance will be scheduled and work requests will be generated for all corrective maintenance required.

Once Per Operating Shift
- Operators will monitor the ash removal system for normal conveying conditions at the precipitator hoppers.

Weekly
- A thorough check of T-R set control room, control units and fans, and the HVAC system will be conducted.
- A thorough check of rapper operation will be conducted. Each rapper or rapper system should activate. Those that do not activate will be scheduled for repair or replacement.
- A thorough check of penthouse pressurization fan operation will be conducted. Pressurization fans and heaters should be operating normally

If any discrepancies are found, repairs will be scheduled.

Semi-Annual

- Inspect and clean insulators, rapper controls, T-R set controls and relays, and hopper heaters and controls.
- Inspect penthouse pressurizing fans.
- Inspect penthouse pressurizing fan heaters.

Annual

- Visually examine electrode alignment.
- Visually inspect for collection surface fouling.
- Visually inspect T-R set mechanical condition.
- Visually inspect internal structural components.

Corrective action measures will be devised and implemented on the occurrence of an abnormal condition. The appropriate measures for remediation will be implemented in a timely manner.

Equipment Monitoring Methods

The performance of the precipitator may be monitored by the meters (voltage and current) located on the remote control cabinet. Continuous common stack opacity monitoring is shown on operator interface screens and the continuous emission monitoring system data acquisition system (CEMDAS). The precipitator control panel has alarms to notify the operator on duty of abnormal conditions. Alarms are provided for high voltage fault, stand by vent fan failure, operating vent fan failure, rapper failure, high dust level and penthouse low pressure.

Performance Criteria

Precipitator performance assessments may be accomplished by reviewing boiler 4 operating logs and the common stack opacity monitor readings. The common stack opacity monitor is used to monitor this boiler as well as other boilers, and any excursions must be reviewed to determine the source before any actions can be taken. Certain boiler transients produce temporary opacity excursions. Examples include soot blowing operations, coal combustion problems, and rapid changes in boiler load.

The maximum opacity permitted on the common stack, if boiler 1 and/or boiler 2 is operating, is thirty (30) percent. If boiler 1 and boiler 2 are not operating, the common stack opacity limit is forty (40) percent. These limits are for any six-minute period in one hour.

In the event that precipitator parameters are operating outside normal limits, corrective action will be initiated as follows:

- Immediately check precipitator ash hoppers and ensure they are not bridged over and causing a build-up of ash which is interfering with precipitator operation.
- Check multiclones for proper operation.
- Check ash removal system for proper operation.

- Should continuous opacity level rise fifteen (15) percent above normal levels, immediately investigate for source of increase and continue monitoring operation to determine the proper course of action. Initiate operational correction or repair procedures within twelve (12) hours.
- Should continuous opacity levels continue to rise and correction of the problem is not imminent, transfer boiler steam production requirements to other steam production equipment.

Recordkeeping & Reporting
Operational records will be kept and maintained at the power plant for a period of five (5) years. They will be available for review upon request by a regulating agency. These records will include:

- Boiler 4 operator logs.
- Common stack CEMDAS opacity daily reports.
- A written or electronic record of all maintenance and inspections and any action resulting from the inspection.

Quality Control
The following quality control measures will be implemented in association with the operation of the ESP:

- The common stack opacity monitor will be automatically calibrated for zero and span adjustments daily. Plant staff will verify the results of this calibration.
- All instruments and control equipment will be maintained and operated according to the manufacturer specifications.
- Any visible emission, in excess of the permitted limit for one six-minute period in one hour, will be reported and corrective action will be taken to correct the problem.
- A spare parts inventory will be available.

This Operation and Maintenance Plan will be available for review at the power plant.

Multiclone Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B4, B4-G	Spreader Stoker Boiler 4 (Coal or Natural Gas Fired)
Emission Point:	S	Tall Stack
Control Equipment:	DC4	Multiclone Separator

Monitoring Guidelines

The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range. An excursion does not necessarily indicate a violation of an applicable requirement.

MONITORING METHODS AND CORRECTIVE ACTION

General

Periodic Monitoring is not required during periods of time greater than one day in which Boiler 4 does not operate.

Routine Operation

Fly ash collected by the multiclone hoppers is discharged into the ash collection system. Occasionally, ash may bridge over in the hoppers or the hopper will not completely empty. Ash may subsequently build up into the operating portion of the multiclone and interfere with normal operation. The plant operations staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indicating a flow of ash from the multiclone hoppers.

Preventative Maintenance

The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance will be scheduled and work requests will be generated for all corrective maintenance required.

Daily

- Plant staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indication a flow of ash from the hoppers.
- Inspect the solids discharge valve for proper operation.

If abnormal conditions are detected, the appropriate measures for remediation will be implemented within twelve (12) hours.

Semi-Annually

- Inspect units during boiler outages.

Annually

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be removed to ensure proper operation.
- Clean cyclone inlet vanes (ramps or spinners) and ensure they operate according to manufacture specifications.

If leaks or abnormal conditions are detected, the appropriate measures for remediation will be implemented before the system is returned to service.
Maintain a written record of the observations, deficiencies, and any action resulting from the inspection.

Equipment Monitoring Methods

Continuous common stack opacity monitoring is shown on operator interface screens and the continuous emission monitoring system data acquisition system (CEMDAS). A plugged hopper would be indicated by a cool hopper outlet pipe, normally these are hot to touch.

Performance Criteria

Multiclone performance assessments may be accomplished by reviewing boiler 4 operating logs and the common stack opacity monitor readings. The common stack opacity monitor is used to monitor the boiler as well as other boilers, and any excursions must be reviewed to determine the source before any actions can be taken. Certain boiler transients produce temporary opacity excursions. Examples include soot blowing operations, coal combustion problems, and rapid changes in boiler load.

The maximum opacity permitted on the common stack, if boiler 1 and/or boiler 2 is operating, is thirty (30) percent. If boiler 1 and boiler 2 are not operating, the common stack opacity limit is forty (40) percent. These limits are for any six-minute period in one hour.
In the event that multiclone parameters are operating outside normal limits, corrective action will be initiated as follows:

- Check the multiclones for proper operation.
- Check the ash removal system for proper operation.
- Check the precipitator ash hoppers and ensure they are not interfering with multiclone operation.
- Should continuous opacity level rise fifteen (15) percent above normal levels, immediately investigate for source of increase and continue monitoring operation to determine the proper course of action. Initiate operational correction or repair procedures within twelve (12) hours.

- Should continuous opacity levels continue to rise and correction of the problem is not imminent, transfer boiler steam production requirements to other steam production equipment.

Recordkeeping & Reporting

Operational records will be kept and maintained at the power plant for a period of five (5) years. They will be available for review upon request by a regulating agency. These records will include:

- Boiler 4 operator logs.
- CEMDAS common stack daily opacity summary reports.
- A written or electronic record of all maintenance and inspections and any action resulting from the inspections.

Quality Control

The following quality control measures will be implemented in association with the operation of the multiclone:

- Any non-exempt visible emissions in excess of permitted limits, for one six-minute period in one hour, will be reported and corrective action will be taken to correct the problem.
- A spare parts inventory will be available.

This Operation and Maintenance Plan will be available for review at the power plant.

Applicable Requirements

Emission Unit vented through this Emission Point: B5
Emission Unit Description: Chain Grate Stoker Boiler (Coal Fired)
Raw Material/Fuel: Coal
Rated Capacity: 223.1 MMBtus of heat input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtus of heat input
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 5 lb./MMBtus of heat input
Authority for Requirement: 567 IAC 23.3(3)"a"(2)

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Boiler B5 shall be limited to an annual steam production of 194,800,000 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:

Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing:

Pollutant - Particulate Matter
1st Stack Test to be Completed by (date) – September 4, 2001
2nd Stack Test to be Completed between (dates) – March 4, 2003 and March 4, 2004
Test Method - Iowa Compliance Sampling Manual
Authority for Requirement - 567 IAC 22.108(3)

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Operation & Maintenance Plan listed below, under Emission Unit B5-G.

Applicable Requirements

Emission Unit vented through this Emission Point: B5-G
Emission Unit Description: Chain Grate Stoker Boiler (Natural Gas Fired)
Raw Material/Fuel: Natural Gas
Rated Capacity: 223.1 MMBtus of heat input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtus of heat input
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:
Boiler B5 shall be limited to an annual steam production of 194,800,000 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:
Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Multiclone Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B5, B5-G	Chain Grate Stoker Boiler 5 (Coal or Natural Gas Fired)
Emission Point:	S	Tall Stack
Control Equipment:	DC5	Multiclone Separator

Monitoring Guidelines

The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range. An excursion does not necessarily indicate a violation of an applicable requirement.

MONITORING METHODS AND CORRECTIVE ACTION

General

Periodic Monitoring is not required during periods of time greater than one day in which Boiler 5 does not operate.

Routine Operation

Fly ash collected by the multiclone hoppers is discharged into the ash collection system. Occasionally, ash may bridge over in the hoppers or the hopper will not completely empty. Ash may subsequently build up into the operating portion of the multiclone and interfere with normal operation. The plant operations staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indicating a flow of ash from the multiclone hoppers.

Preventative Maintenance

The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance will be scheduled and work requests will be generated for all corrective maintenance required.

Daily

- Plant staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indication a flow of ash from the hoppers.
- Inspect the solids discharge valve for proper operation.

If abnormal conditions are detected, the appropriate measures for remediation will be implemented within twelve (12) hours.

Semi-Annually

- Inspect units during boiler outages.

Annually

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be removed to ensure proper operation.
- Clean cyclone inlet vanes (ramps or spinners) and ensure they operate according to manufacture specifications.

If leaks or abnormal conditions are detected, the appropriate measures for remediation will be implemented before the system is returned to service.
Maintain a written record of the observations, deficiencies, and any action resulting from the inspection.

Equipment Monitoring Methods

Continuous common stack opacity monitoring is shown on operator interface screens and the continuous emission monitoring system data acquisition system (CEMDAS). A plugged hopper would be indicated by a cool hopper outlet pipe, normally these are hot to touch.

Performance Criteria

Multiclone performance assessments may be accomplished by reviewing boiler 5 operating logs and the common stack opacity monitor readings. The common stack opacity monitor is used to monitor the boiler as well as other boilers, and any excursions must be reviewed to determine the source before any actions can be taken. Certain boiler transients produce temporary opacity excursions. Examples include soot blowing operations, coal combustion problems, and rapid changes in boiler load.

The maximum opacity permitted on the common stack, if boiler 1 and/or boiler 2 is operating, is thirty (30) percent. If boiler 1 and boiler 2 are not operating, the common stack opacity limit is forty (40) percent. These limits are for any six-minute period in one hour.
In the event that multiclone parameters are operating outside normal limits, corrective action will be initiated as follows:

- Check the multiclones for proper operation.
- Check the ash removal system for proper operation.
- Should continuous opacity level rise fifteen (15) percent above normal levels, immediately investigate for source of increase and continue monitoring operation to determine the proper course of action. Initiate operational correction or repair procedures within twelve (12) hours.
- Should continuous opacity levels continue to rise and correction of the problem is not imminent, transfer boiler steam production requirements to other steam production equipment.

Recordkeeping & Reporting

Operational records will be kept and maintained at the power plant for a period of five (5) years. They will be available for review upon request by a regulating agency. These records will include:

- Boiler 5 operator logs.
- CEMDAS common stack daily opacity summary reports.
- A written or electronic record of all maintenance and inspections and any action resulting from the inspections.

Quality Control

The following quality control measures will be implemented in association with the operation of the multiclone:

- Any non-exempt visible emissions in excess of permitted limits, for one six-minute period in one hour, will be reported and corrective action will be taken to correct the problem.
- A spare parts inventory will be available.

This Operation and Maintenance Plan will be available for review at the power plant.

Applicable Requirements

Emission Unit vented through this Emission Point: B6
Emission Unit Description: Chain Grate Stoker Boiler (Coal Fired)
Raw Material/Fuel: Coal
Rated Capacity: 133.0 MMBtus of heat input /hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtus of heat input
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 5 lb./MMBtus of heat input
Authority for Requirement: 567 IAC 23.3(3)"a"(2)

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Boilers B6 and B7 shall be limited to a combined annual steam production of 593,960,512 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:

Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing:

Pollutant - Particulate Matter
1st Stack Test to be Completed by (date) – September 4, 2001
2nd Stack Test to be Completed between (dates) – March 4, 2003 and March 4, 2004
Test Method - Iowa Compliance Sampling Manual
Authority for Requirement - 567 IAC 22.108(3)

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Operation & Maintenance Plan listed below, under Emission Unit B6-G.

Applicable Requirements

Emission Unit vented through this Emission Point: B6-G
Emission Unit Description: Chain Grate Stoker Boiler (Natural Gas Fired)
Raw Material/Fuel: Natural Gas
Rated Capacity: 133.0 MMBtu/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtu
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Boilers B6 and B7 shall be limited to a combined annual steam production of 593,960,512 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:

Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Multiclone Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B6, B6-G	Chain Grate Stoker Boiler 6 (Coal or Natural Gas Fired)
Emission Point:	S	Tall Stack
Control Equipment:	DC6	Multiclone Separator

Monitoring Guidelines

The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range. An excursion does not necessarily indicate a violation of an applicable requirement.

MONITORING METHODS AND CORRECTIVE ACTION

General

Periodic Monitoring is not required during periods of time greater than one day in which Boiler 6 does not operate.

Routine Operation

Fly ash collected by the multiclone hoppers is discharged into the ash collection system. Occasionally, ash may bridge over in the hoppers or the hopper will not completely empty. Ash may subsequently build up into the operating portion of the multiclone and interfere with normal operation. The plant operations staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indicating a flow of ash from the multiclone hoppers.

Preventative Maintenance

The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance will be scheduled and work requests will be generated for all corrective maintenance required.

Daily

- Plant staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indication a flow of ash from the hoppers.
- Inspect the solids discharge valve for proper operation.

If abnormal conditions are detected, the appropriate measures for remediation will be implemented within twelve (12) hours.

Semi-Annually

- Inspect units during boiler outages.

Annually

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be removed to ensure proper operation.
- Clean cyclone inlet vanes (ramps or spinners) and ensure they operate according to manufacture specifications.

If leaks or abnormal conditions are detected, the appropriate measures for remediation will be implemented before the system is returned to service.
Maintain a written record of the observations, deficiencies, and any action resulting from the inspection.

Equipment Monitoring Methods

Continuous common stack opacity monitoring is shown on operator interface screens and the continuous emission monitoring system data acquisition system (CEMDAS). A plugged hopper would be indicated by a cool hopper outlet pipe, normally these are hot to touch.

Performance Criteria

Multiclone performance assessments may be accomplished by reviewing boiler 6 operating logs and the common stack opacity monitor readings. The common stack opacity monitor is used to monitor the boiler as well as other boilers, and any excursions must be reviewed to determine the source before any actions can be taken. Certain boiler transients produce temporary opacity excursions. Examples include soot blowing operations, coal combustion problems, and rapid changes in boiler load.

The maximum opacity permitted on the common stack, if boiler 1 and/or boiler 2 is operating, is thirty (30) percent. If boiler 1 and boiler 2 are not operating, the common stack opacity limit is forty (40) percent. These limits are for any six-minute period in one hour.
In the event that multiclone parameters are operating outside normal limits, corrective action will be initiated as follows:

- Check the multiclones for proper operation.
- Check the ash removal system for proper operation.
- Should continuous opacity level rise fifteen (15) percent above normal levels, immediately investigate for source of increase and continue monitoring operation to determine the proper course of action. Initiate operational correction or repair procedures within twelve (12) hours.

- Should continuous opacity levels continue to rise and correction of the problem is not imminent, transfer boiler steam production requirements to other steam production equipment.

Recordkeeping & Reporting

Operational records will be kept and maintained at the power plant for a period of five (5) years. They will be available for review upon request by a regulating agency. These records will include:

- Boiler 6 operator logs.
- CEMDAS common stack daily opacity summary reports.
- A written or electronic record of all maintenance and inspections and any action resulting from the inspections.

Quality Control

The following quality control measures will be implemented in association with the operation of the multiclone:

- Any non-exempt visible emissions in excess of permitted limits, for one six-minute period in one hour, will be reported and corrective action will be taken to correct the problem.
- A spare parts inventory will be available.

This Operation and Maintenance Plan will be available for review at the power plant.

Applicable Requirements

Emission Unit vented through this Emission Point: B7
Emission Unit Description: Chain Grate Stoker Boiler (Coal Fired)
Raw Material/Fuel: Coal
Rated Capacity: 133.0 MMBtus of heat input/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 30% when B1 and/or B2 are operating,
40% when B1 and B2 are not operating
Authority for Requirement: Letter of May 11, 1990 from Rexford A. Walker, Supervisor of the Air Quality Section, Iowa DNR

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.389 lb./MMBtus of heat input
Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 5 lb./MMBtus of heat input
Authority for Requirement: 567 IAC 23.3(3)"a"(2)

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Boilers B6 and B7 shall be limited to a combined annual steam production of 593,960,512 pounds per year.

Authority for Requirement: Condition VI of Iowa DNR Conditional Permit of December 8, 1986

Reporting & Record keeping:

Steam production records shall be kept per present practice and annual totals reported to the DNR by March 31 for the previous year. The report shall reference the subject permit by number and excursions above those stated under *Process throughput*, above shall be flagged.

Authority for Requirement: Condition VII of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing:

Pollutant - Particulate Matter
1st Stack Test to be Completed by (date) – September 4, 2001
2nd Stack Test to be Completed between (dates) – March 4, 2003 and *March 4, 2004*
Test Method - Iowa Compliance Sampling Manual
Authority for Requirement - 567 IAC 22.108(3)

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR 60 Appendix B
Date of Initial System Calibration and Quality Assurance - February 9, 1989
Ongoing System Calibration/Quality Assurance - 40 CFR 60 Appendix B
Reporting & Record keeping - Condition V US EPA Region VII Order of 8/24/76
Authority for Requirement: US EPA Region VII Order of 8/24/76

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐

Relevant requirements of O & M plan for this equipment: Particulate Matter

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Multiclone Agency Operation & Maintenance Plan

Facility:	Iowa State University Power Plant	
EIQ Number:	92-2776	
Emission Unit:	B7	Chain Grate Stoker Boiler 7
Emission Point:	S	Tall Stack
Control Equipment:	DC7	Multiclone Separator

Monitoring Guidelines

The Iowa State University Power Plant is committed to taking timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation to normal, or to restore the indicator to normal range. An excursion does not necessarily indicate a violation of an applicable requirement.

MONITORING METHODS AND CORRECTIVE ACTION

General

Periodic Monitoring is not required during periods of time greater than one day in which Boiler 7 does not operate.

Routine Operation

Fly ash collected by the multiclone hoppers is discharged into the ash collection system. Occasionally, ash may bridge over in the hoppers or the hopper will not completely empty. Ash may subsequently build up into the operating portion of the multiclone and interfere with normal operation. The plant operations staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indicating a flow of ash from the multiclone hoppers.

Preventative Maintenance

The power plant has a preventative maintenance schedule and documents corrective maintenance history. The following preventative maintenance will be scheduled and work requests will be generated for all corrective maintenance required.

Daily

- Plant staff will visually check multiclone hopper outlets to ensure the discharge pipes are hot to the touch, thus indication a flow of ash from the hoppers.
- Inspect the solids discharge valve for proper operation.

If abnormal conditions are detected, the appropriate measures for remediation will be implemented within twelve (12) hours.

Semi-Annually

- Inspect units during boiler outages.

Annually

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be removed to ensure proper operation.
- Clean cyclone inlet vanes (ramps or spinners) and ensure they operate according to manufacture specifications.

If leaks or abnormal conditions are detected, the appropriate measures for remediation will be implemented before the system is returned to service.
Maintain a written record of the observations, deficiencies, and any action resulting from the inspection.

Equipment Monitoring Methods

Continuous common stack opacity monitoring is shown on operator interface screens and the continuous emission monitoring system data acquisition system (CEMDAS). A plugged hopper would be indicated by a cool hopper outlet pipe, normally these are hot to touch.

Performance Criteria

Multiclone performance assessments may be accomplished by reviewing boiler 7 operating logs and the common stack opacity monitor readings. The common stack opacity monitor is used to monitor the boiler as well as other boilers, and any excursions must be reviewed to determine the source before any actions can be taken. Certain boiler transients produce temporary opacity excursions. Examples include soot blowing operations, coal combustion problems, and rapid changes in boiler load.

The maximum opacity permitted on the common stack, if boiler 1 and/or boiler 2 is operating, is thirty (30) percent. If boiler 1 and boiler 2 are not operating, the common stack opacity limit is forty (40) percent. These limits are for any six-minute period in one hour.
In the event that multiclone parameters are operating outside normal limits, corrective action will be initiated as follows:

- Check the multiclones for proper operation.
- Check the ash removal system for proper operation.
- Should continuous opacity level rise fifteen (15) percent above normal levels, immediately investigate for source of increase and continue monitoring operation to determine the proper course of action. Initiate operational correction or repair procedures within twelve (12) hours.

- Should continuous opacity levels continue to rise and correction of the problem is not imminent, transfer boiler steam production requirements to other steam production equipment.

Recordkeeping & Reporting

Operational records will be kept and maintained at the power plant for a period of five (5) years. They will be available for review upon request by a regulating agency. These records will include:

- Boiler 7 operator logs.
- CEMDAS common stack daily opacity summary reports.
- A written or electronic record of all maintenance and inspections and any action resulting from the inspections.

Quality Control

The following quality control measures will be implemented in association with the operation of the multiclone:

- Any non-exempt visible emissions in excess of permitted limits, for one six-minute period in one hour, will be reported and corrective action will be taken to correct the problem.
- A spare parts inventory will be available.

This Operation and Maintenance Plan will be available for review at the power plant.

Emission Point ID Number: ss

Associated Equipment

Emission Unit ID No.	Control Equipment ID No. and Description	Continuous Emissions Monitor ID No
B1	CFB1 Circulating Fluidized Bed Boiler 1 BGH1 Pulse Jet Baghouse 1	OP1, S1, N12, C12,
B2	CFB1 Circulating Fluidized Bed Boiler 2 BGH2 Pulse Jet Baghouse 2	OP2, S2, N12, C12,
B3	DC3 Multiclone Dust Collector P3 Electrostatic Precipitator	
B3-G	DC3 Multiclone Dust Collector	
B4	DC4 Multiclone Dust Collector P4 Electrostatic Precipitator	
B4-G	DC4 Multiclone Dust Collector	
B5, B5-G	DC5 Multiclone Dust Collector	
B6, B6-G	DC6 Multiclone Dust Collector	
B7	DC7 Multiclone Dust Collector	

Applicable Requirements

All the Applicable Requirements for the boilers listed under Emission Point S, including Emission Limits, Operational Limits and Requirements, Compliance Plan, and Periodic Monitoring Requirements apply when this stack is used, with the exception of those relating to the common stack opacity monitor, OPS, which is installed on Emission Point S pursuant to Condition IV (D) of the US EPA Region VII Order of 8/24/76.

Emission Point ID Number: EP1

Associated Equipment

Associated Emission Unit ID Numbers: EU1
Emissions Control Equipment ID Number: CE1A and CE1B
Emissions Control Equipment Description: Centrifugal Separator and Pulse Jet Baghouse

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Applicable Requirements

Emission Unit vented through this Emission Point: EU1
Emission Unit Description: CFB Ash Transport
Raw Material/Fuel: Fly Ash
Rated Capacity: 20 tons/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): No Visible Emissions[(1)]
[(1)] This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr./dscf and 9.37 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-139

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting & Record keeping:

Excess opacity must be reported to the Iowa DNR orally and in writing per 567 IAC 24.1 (455B).

Authority for Requirement: Iowa DNR Conditional Permit 86-A-139

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP2

Associated Equipment

Associated Emission Unit ID Numbers: EU2
Emissions Control Equipment ID Number: CE2
Emissions Control Equipment Description: Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point: EU2
Emission Unit Description: CFB Ash Storage Silo
Raw Material/Fuel: Fly Ash
Rated Capacity: 20 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): No Visible Emissions (1)
(1) This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr./dscf and 0.15 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-140

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting & Record keeping:

Excess opacity must be reported to the Iowa DNR orally and in writing per 567 IAC 24.1 (455B)

Authority for Requirement: Iowa DNR Conditional Permit 86-A-140

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP3

Associated Equipment

Associated Emission Unit ID Numbers: EU3

Applicable Requirements

Emission Unit vented through this Emission Point : EU3
Emission Unit Description: Truck Loading-Dry Ash (Fugitive)
Raw Material/Fuel: Fly Ash
Rated Capacity: 20 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit : No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP4

Associated Equipment

Associated Emission Unit ID Numbers: EU4

Applicable Requirements

Emission Unit vented through this Emission Point : EU4
Emission Unit Description: CFB Wet Ash Mixer (Fugitive)
Raw Material/Fuel: Fly Ash
Rated Capacity: 20 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit : No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP5

Associated Equipment

Associated Emission Unit ID Numbers: EU5
Emissions Control Equipment ID Number: CE5
Emissions Control Equipment Description: Wet Ash Mixer

Applicable Requirements

Emission Unit vented through this Emission Point: EU5
Emission Unit Description: Truck Loading-Wet Ash (Fugitive)
Raw Material/Fuel: Fly Ash
Rated Capacity: 20 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 20%(1)
(1) No visible emissions at the property line.
Authority for Requirement: Iowa DNR Conditional Permit 86-A-141
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 4.51 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-141

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years. The facility shall use EPA Method 9 with a certified smoke reader for the monitoring method.

If an opacity > (20%) is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Fugitive Dust Control Plan Required? Yes ☒ No ☐

Facility fugitive dust control plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility fugitive dust control plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the fugitive dust control procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP10

Associated Equipment

Associated Emission Unit ID Numbers : EU10

Applicable Requirements

Emission Unit vented through this Emission Point : EU10
Emission Unit Description : Truck Unloading-Limestone (Fugitive)
Raw Material/Fuel: Limestone
Rated Capacity: 200 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit : No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP11

Associated Equipment

Associated Emission Unit ID Numbers : EU11
Emissions Control Equipment ID Number : CE11
Emissions Control Equipment Description : Pulse Jet Cartridge Filter

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Applicable Requirements

Emission Unit vented through this Emission Point : EU11
Emission Unit Description : Unloading Limestone Hopper
Raw Material/Fuel: Limestone
Rated Capacity: 200 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : 0% from the exhaust, less than 5% at the pick-up points
Authority for Requirement: Iowa DNR Conditional Permit 86-A-137
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.262 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-137

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years. The facility shall use EPA Method 9 with a certified smoke reader for the monitoring method.

If an opacity ≥ (5%) is observed at the pick-up points or an opacity > (0%) is observed at the exhaust, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP20

Associated Equipment

Associated Emission Unit ID Numbers: EU20

Applicable Requirements

Emission Unit vented through this Emission Point : EU20
Emission Unit Description: Loading Coal into Hopper (Fugitive)
Raw Material/Fuel: Coal
Rated Capacity: 150 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 20%(1)
(1) No visible emissions at the property line.
Authority for Requirement: Iowa DNR Conditional Permit 86-A-129
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.776 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-129

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years. The facility shall use EPA Method 9 with a certified smoke reader for the monitoring method.

If an opacity ≥ (20%) is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If

weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Fugitive Dust Control Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP21

Associated Equipment

Associated Emission Unit ID Numbers : EU21
Emissions Control Equipment ID Number : CE21
Emissions Control Equipment Description : Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point : EU21
Emission Unit Description : Crushing, Conveying & Transfer-Coal
Raw Material/Fuel: Coal
Rated Capacity: 150 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : No Visible Emissions [(1)]
[(1)] This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.01 gr./dscf and 0.206 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-132

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an

opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP22A

Associated Equipment

Associated Emission Unit ID Numbers : EU22A
Emissions Control Equipment ID Number : CE22A
Emissions Control Equipment Description : Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point : EU22A
Emission Unit Description : Drag Chain 2A-Coal Transport
Raw Material/Fuel: Coal
Rated Capacity: 150 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : No Visible Emissions [(1)]
[(1)] This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.01 gr./dscf and 0.377 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-133

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals

throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP22B

Associated Equipment

Associated Emission Unit ID Numbers : EU22B
Emissions Control Equipment ID Number : CE22B
Emissions Control Equipment Description : Pulse Jet Bag Filter

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Applicable Requirements

Emission Unit vented through this Emission Point : EU22B
Emission Unit Description : Drag Chain 2B-Limestone Transfer
Raw Material/Fuel: Limestone
Rated Capacity: 200 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : No Visible Emissions [(1)]
[(1)] This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.01 gr./dscf and 0.377 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-134

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals

throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP22C

Associated Equipment

Associated Emission Unit ID Numbers : EU22C
Emissions Control Equipment ID Number : CE22C
Emissions Control Equipment Description : Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point : EU22C
Emission Unit Description : Silo 1-Loading Coal
Raw Material/Fuel: Coal
Rated Capacity: 150 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : No Visible Emissions [(1)]
[(1)] This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.01 gr./dscf and 0.131 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-135

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At

least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP22D

Associated Equipment

Associated Emission Unit ID Numbers : EU22D
Emissions Control Equipment ID Number : CE22D
Emissions Control Equipment Description : Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point : EU22D
Emission Unit Description : Silo 2-Loading Limestone
Raw Material/Fuel: Limestone
Rated Capacity: 200 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

Pollutant: Opacity
Emission Limit(s) : No Visible Emissions [(1)]
[(1)] This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.171 lb./hr and 0.1 gr./ dscf
Authority for Requirement: Iowa DNR Construction Permit 86-A-138-S1

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Work practice standards:
1. The operator shall inspect and maintain the control equipment according to manufacturer's specifications.

Reporting & Record keeping:
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.
1. The operator shall keep records of baghouse inspections and maintenance.

Authority for Requirement: Iowa DNR Construction Permit 86-A-138-S1

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Emission Point Characteristics
This emission point shall conform to the specifications listed below.

Stack Height (ft., from the ground): NA-source vents inside penthouse
Stack Opening (inches): 17 inches x 8 inches
Exhaust Flow Rate (scfm): 2,000
Exhaust Temperature (^{o}F): Ambient
Discharge Style: NA-source vents inside penthouse

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a permit amendment, if required.

Authority for Requirement: Iowa DNR Construction Permit 86-A-138-S1

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP22E

Associated Equipment

Associated Emission Unit ID Numbers : EU22E
Emissions Control Equipment ID Number : CE22E
Emissions Control Equipment Description : Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point : EU22E
Emission Unit Description : Silo 3-Loading Coal
Raw Material/Fuel: Coal
Rated Capacity: 150 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

Pollutant: Opacity
Emission Limit(s) : No Visible Emissions [(1)]
[(1)] This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.01 gr./dscf and 0.131 TPY
Authority for Requirement: Iowa DNR Conditional Permit 86-A-136

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals

throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP30

Associated Equipment

Associated Emission Unit ID Numbers : EU30

Applicable Requirements

Emission Unit vented through this Emission Point : EU30
Emission Unit Description : Front End Loading Stoker Coal (Fugitive)
Raw Material/Fuel: Coal
Rated Capacity: 100 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit : No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP30A

Associated Equipment

Associated Emission Unit ID Numbers: EU30A

Applicable Requirements

Emission Unit vented through this Emission Point : EU30A
Emission Unit Description : Crushing and Conveying Stoker Coal (Fugitive)
Raw Material/Fuel: Coal
Rated Capacity: 100 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit : No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP31

Associated Equipment

Associated Emission Unit ID Numbers: EU31
Emissions Control Equipment ID Number: CE31
Emissions Control Equipment Description: Pulse Jet Cartridge Filter

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Applicable Requirements

Emission Unit vented through this Emission Point: EU31
Emission Unit Description: Stoker Coal Bunker Loading
Raw Material/Fuel: Coal
Rated Capacity: 100 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr./dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: PM_{10}
Emission Limit(s): 0.02 gr./scf, 1.00 lb./hr, and 4.38 TPY
Authority for Requirement: Iowa DNR construction Permit 81-A-126-S1

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Source Emission Characteristics
The emission source shall be constructed as detailed in the application. The source is to be connected to the stack detailed below.

Height (above grade): 77 ft.
Diameter: 2.6" x 3.0"
Flow Rate: 5,500 SCFM
Temperature: Ambient
Location: 65.5 ft. West of Stack #2 in the Power Plant Building (in line North and South with Stack #2)
The source shall be identified by permanent labels both in the plant and at the emission point on the roof. The permit holder shall submit to the Department a scaled drawing of the plant showing the rooftop locations of all emission points, labeled with Department permit number.
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 81-A-126-S1

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP40

Associated Equipment

Associated Emission Unit ID Numbers: EU40A, EU40B, and EU40C

Applicable Requirements

Emission Unit vented through this Emission Point : EU40A
Emission Unit Description: Truck Unloading-Coal Storage Pile (Fugitive)
Raw Material/Fuel: Coal
Rated Capacity: 100 TPH

Emission Unit vented through this Emission Point : EU40B
Emission Unit Description: Front End Loader Reclaim-Coal Storage Pile (Fugitive)
Raw Material/Fuel: Coal
Rated Capacity: 100 TPH

Emission Unit vented through this Emission Point : EU40C
Emission Unit Description: Wind Erosion-Coal Storage Pile (Fugitive)
Raw Material/Fuel: Coal
Rated Capacity: 1.194 Acres

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 20%(1)
(1) No visible emissions at the property line.
Authority for Requirement: Iowa DNR Conditional Permit 86-A-130
Iowa DNR Conditional Permit 86-A-131
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.245 TPY(2) and 0.140 TPY(3)
(2) Emissions from the unloading of coal from trucks.
Authority for Requirement: Iowa DNR Conditional Permit 86-A-130
(3) Emissions from reclaiming coal with a front-end-loader.
Authority for Requirement: Iowa DNR Conditional Permit 86-A-131

Compliance Plan

The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

The facility shall check the opacity weekly during a period when coal is being unloaded from a truck and when coal is being loaded by the front-end-loader and record the readings. Maintain a written record of the observations and any action resulting from the observations for a minimum of five years. The facility shall use EPA Method 9 with a certified smoke reader for the monitoring method.

If an opacity > (20%) is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Fugitive Dust Control Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP50

Associated Equipment

Associated Emission Unit ID Numbers : EU50
Emissions Control Equipment ID Number : CE50A
Emissions Control Equipment Description : Centrifugal Separator
Emissions Control Equipment ID Number : CE50B
Emissions Control Equipment Description : Centrifugal Separator
Emissions Control Equipment ID Number : CE50C
Emissions Control Equipment Description : Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point : EU50
Emission Unit Description : Stoker Fly Ash Transport
Raw Material/Fuel: Fly Ash
Rated Capacity: 15 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.1 gr./dscf
Authority for Requirement: Iowa DNR Conditional Permit 79-A-023
567 IAC 23.3(2)"a"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP51

Associated Equipment

Associated Emission Unit ID Numbers: EU51
Emissions Control Equipment ID Number: CE51
Emissions Control Equipment Description: Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point: EU51
Emission Unit Description: Stoker Fly Ash Silo Loading
Raw Material/Fuel: Fly Ash
Rated Capacity: 15 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr./dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP52

Associated Equipment

Associated Emission Unit ID Numbers: EU52
Emissions Control Equipment ID Number: CE52
Emissions Control Equipment Description: Rotary Wet Unloader

Applicable Requirements

Emission Unit vented through this Emission Point: EU52
Emission Unit Description: Fly Ash Load-Out (Fugitive)
Raw Material/Fuel: Fly Ash
Rated Capacity: 15 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP53

Associated Equipment

Associated Emission Unit ID Numbers : EU53
Emissions Control Equipment ID Number : CE53
Emissions Control Equipment Description : Pulse Jet Filter Cartridge

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Applicable Requirements

Emission Unit vented through this Emission Point : EU53
Emission Unit Description : Fly Ash Load-Out-Dry Spout
Raw Material/Fuel: Fly Ash
Rated Capacity: 15 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : No Visible Emissions [(1)]
[(1)] This opacity limit was requested by the applicant.
Authority for Requirement: 567 IAC 22.108(13)

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.1 gr./dscf
Authority for Requirement: Iowa DNR Conditional Permit 96-A-1261
567 IAC 23.3(2)"a"

Pollutant: PM_{10}
Emission Limit(s) : 0.1 lb./hr
Authority for Requirement: Iowa DNR Construction Permit 96-A-1261

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Source Emission Characteristics

Stack Height: 27 ft
Size: 0.5 ft
Flow Rate: 1,000 scfm
Temperature: 100 ^{o}F
NOTE: Stack is a horizontal exhaust.
Authority for Requirement: Iowa DNR Construction Permit 96-A-1261

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(13)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP60

Associated Equipment

Associated Emission Unit ID Numbers: EU60
Emissions Control Equipment ID Number : CE60A
Emissions Control Equipment Description : Centrifugal Separator
Emissions Control Equipment ID Number : CE60B
Emissions Control Equipment Description : Centrifugal Separator
Emissions Control Equipment ID Number : CE60C
Emissions Control Equipment Description : Pulse Jet Baghouse

Applicable Requirements

Emission Unit vented through this Emission Point : EU60
Emission Unit Description : Stoker Bottom Ash Transport
Raw Material/Fuel: Bottom Ash
Rated Capacity: 15 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.1 gr./dscf
Authority for Requirement: Iowa DNR Conditional Permit 77-A-026
567 IAC 23.3(2)"a"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP61

Associated Equipment

Associated Emission Unit ID Numbers: EU61
Emissions Control Equipment ID Number: CE60A and CE60B
Emissions Control Equipment Description: Centrifugal Separators

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Applicable Requirements

Emission Unit vented through this Emission Point: EU61
Emission Unit Description: Steam Puller
Raw Material/Fuel: 15 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr./dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP62

Associated Equipment

Associated Emission Unit ID Numbers: EU62

Applicable Requirements

Emission Unit vented through this Emission Point : EU62
Emission Unit Description: Stoker Bottom Ash Silo Loading (Fugitive)
Raw Material/Fuel: Bottom Ash
Rated Capacity: 15 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit : No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP63

Associated Equipment

Associated Emission Unit ID Numbers: EU63

Applicable Requirements

Emission Unit vented through this Emission Point : EU63
Emission Unit Description: Stoker Bottom Ash Load-Out (Fugitive)
Raw Material/Fuel: Bottom Ash
Rated Capacity: 15 TPH

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit : No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP80

Associated Equipment

Associated Emission Unit ID Numbers: EU80
Emissions Control Equipment ID Number : CE80A and CE80B
Emissions Control Equipment Description : Centrifugal Separator and Baghouse

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Applicable Requirements

Emission Unit vented through this Emission Point: EU80
Emission Unit Description: Central Vacuum System
Raw Material/Fuel: Dust
Rated Capacity: 350 scfm

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : 40%(1)
Authority for Requirement: Iowa DNR Construction Permit 99-A-853
567 IAC 23.3(2)"d"

(1) Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedence of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. The permit holder shall also file an "indicator opacity exceedence report" with the DNR field office and keep records as required in the policy. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.1 gr./dscf
Authority for Requirement: Iowa DNR Construction Permit 99-A-853
567 IAC 23.3(2)"a"

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Emission Point Characteristics
This emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 6 1/2 Feet
Stack Opening (inches, diameter) : 6 inches
Exhaust Flow Rate (scfm): 350 scfm
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Downward
Authority for Requirement: Iowa DNR Construction Permit 99-A-853

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP90

Associated Equipment

Associated Emission Unit ID Numbers: EU90
Emissions Control Equipment ID Number: CE90
Emissions Control Equipment Description: Water Spray

Applicable Requirements

Emission Unit vented through this Emission Point: EU90
Emission Unit Description: Vehicle Traffic (Fugitive)
Raw Material/Fuel: Road Dust
Rated Capacity: 3534 miles/yr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): No visible emissions at the property line
Authority for Requirement: Condition I of Iowa DNR Conditional Permit of December 8, 1986

Pollutant: Particulate Matter (PM)
Emission Limit(s): 11.76 TPY
Authority for Requirement: Condition I of Iowa DNR Conditional Permit of December 8, 1986

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Fugitive Dust Control Plan Required? Yes ☒ No ☐

Facility fugitive dust control plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility fugitive dust control plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the fugitive dust control procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP100

Associated Equipment

Associated Emission Unit ID Numbers: EU100

Applicable Requirements

Emission Unit vented through this Emission Point : EU100
Emission Unit Description : Portable Diesel Generator
Raw Material/Fuel: Diesel Fuel
Rated Capacity: 20.8 gal./hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s) : 40%(1)
Authority for Requirement: Iowa DNR Construction Permit 99-A-732
567 IAC 23.3(2)"d"

(1) Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedence of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. The permit holder shall also file an "indicator opacity exceedence report" with the DNR field office and keep records as required in the policy. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit(s) : 0.6 lb./MMBtu
Authority for Requirement: Iowa DNR Construction Permit 99-A-732
567 IAC 23.3(2)"b"

Pollutant: Nitrogen Dioxide (NO_x)
Emission Limit(s) : 39.4 TPY
Authority for Requirement: Iowa DNR Construction Permit 99-A-732

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The diesel generator shall use #1 or #2 diesel fuel only.
2. The diesel generator shall be limited to 125,000 gallons of fuel per twelve-month period, rolled monthly.

3. The diesel fuel shall have a sulfur content not to exceed 0.5% by weight.

Reporting & Record keeping:
All records, as required below, shall be satisfactory for demonstrating compliance with all applicable operating limits.
Records must be maintained onsite for at least five (5) years and made available to the DNR upon request. Records shall be maintained in a legible and orderly manner and shall indicate the following:

1. The type of diesel used.
2. The quantity of diesel fuel used per twelve-month period, rolled monthly.
3. The sulfur content of the fuel used.

Authority for Requirement: Iowa DNR Construction Permit 99-A-732

Compliance Plan
The owner/operator of this equipment shall comply with the applicable requirements listed below.

This point is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which will become effective during the permit term, this source will comply with such requirements in a timely manner.

Source Emission Characteristics
This equipment shall be connected to the stack specified below.

Stack Height (ft, from the ground): 11 feet
Stack Diameter: 6 inches
Exhaust Flow Rate: 2,103 scfm
Exhaust Temperature (^{o}F): 903
Authority for Requirement: Iowa DNR Construction Permit 99-A-732

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*

2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"3.*

3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*

4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*

5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*

G2. Permit Expiration

1. Except as provided in 567 IAC 22.104, the expiration of this permit terminates the permittee's right to operate unless a timely and complete application has been submitted for renewal. Any testing required for renewal shall be completed before the application is submitted. *567 IAC 22.116(2)*

2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall present or mail the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Urbandale, Iowa 50322, four or more copies of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

On March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for

determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

G5. Semi-Annual Monitoring Report

On March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5).*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
    a. Form 1.0 "Facility Identification";
    b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
    c. Form 5.0 "Title V annual emissions summary/fee"; and
    d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
    a. Form 1.0 "Facility Identification";
    b. Form 5.0 "Title V annual emissions summary/fee";
    c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year .
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:
1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties

The owner or operator of any air emission source or control equipment shall:
1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records:
    a. The date, place and time of sampling or measurements
    b. The date the analyses were performed.
    c. The company or entity that performed the analyses.
    d. The analytical techniques or methods used.
    e. The results of such analyses; and
    f. The operating conditions as existing at the time of sampling or measurement.
    g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)
2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.
3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

a. Comply with all terms and conditions of this permit specific to each alternative scenario.
b. Maintain a log at the permitted facility of the scenario under which it is operating.
c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G12. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G13. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Oral Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An oral report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable visible emission standard by more than 10 percent opacity. The oral report may be made in person or by telephone and shall include as a minimum the following:

i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and expected duration of the excess emission.

iv. The cause of the excess emission.

v. The steps being taken to remedy the excess emission.

vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required oral reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and duration of the excess emission.

iv. The cause of the excess emission.

v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.

vi. The steps that were taken to limit the excess emission.

vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The facility at the time was being properly operated;

c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and

d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. *567 IAC 22.108(16)*

G14. Permit Deviation Reporting Requirements

A deviation is an instance when any condition of this permit is violated. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above. Any violation of an applicable requirement shall be reported to the appropriate regional office by telephone or in person within seven (7) days of the violation. This report shall include the probable cause of such violation, and any corrective actions or preventive measures taken. Any other deviations shall be documented in the semi-annual report. *567 IAC 22.108(5)"b".*

G15. Notification Requirements for Sources That Become Subject to NSPS and HAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants) or section 112 of the Act. This notification shall be submitted in writing to the department 30 days before the source becomes subject to the afore-mentioned standard or other requirement. *40 CFR part 63.9 as adopted in 567 IAC 23.1(4); 40 CFR part 60.7 as adopted in 567 IAC 23.1(2)*

G16. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.

b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);

c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);

d. The changes are not subject to any requirement under Title IV of the Act.

e. The changes comply with all applicable requirements.

f. For such a change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:

i. A brief description of the change within the permitted facility,

ii. The date on which the change will occur,

iii. Any change in emission as a result of that change,

iv. The pollutants emitted subject to the emissions trade

v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.

vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and

vii. Any permit term or condition no longer applicable as a result of the change. *567 IAC 22.110.(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110.(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110.(3)*

4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110.(4)*

5. Aggregate Insignificant Emissions. The permittee shall not construct, establish or operate any new insignificant activities or modify any existing insignificant activities in such a way that the emissions from these activities no longer meet the criteria of aggregate insignificant emissions. If the aggregate insignificant emissions are expected to be exceeded, the permittee shall submit the appropriate permit modification and receive approval prior to making any change. *567 IAC 22.103.(2)*

6. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108 (11)*

G17. Duty to Modify a Title V Permit

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that is required to do any of the following:

i. Correct typographical errors

ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

iii. Require more frequent monitoring or reporting by the permittee; or

iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

2. Minor Permit Modification.

a. Minor permit modification procedures may be used only for those permit modifications that do any of the following:

i. Do not violate any applicable requirements

ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit.

iii. Do not require or change a case by case determination of an emission limitation or other standard, or increment analysis.

iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act.;

v. Are not modifications under any provision of Title I of the Act; and

vi. Are not required to be processed as significant modification.

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:

i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs.

ii. The permittee's suggested draft permit

iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of a minor permit modification procedures and a request that such procedures be used; and

iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, existing permit term terms and conditions it seeks to modify may subject the facility to enforcement action.

3. Significant Permit Modification. Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing

requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, and those requirements that apply to Title V issuance and renewal. *567 IAC 22.111-567 IAC 22.113*

The permittee shall submit an application for a significant permit modification at least 6 months, but not more than 18 months prior to the date of the proposed modification. *567 IAC 22.105(1)a(2)*

G18. Duty to Obtain Construction Permits

Unless exempted under 567 IAC 22.1(2), the permittee must not construct, install, reconstruct, or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, conditional permit, or permit pursuant to 567 IAC 22.8, or permits required pursuant to 567 IAC 22.4 and 567 IAC 22.5. Such permits shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source. *567 IAC 22.1(1)*

G19. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when conducting any renovation or demolition activities at the facility. *IAC 23.1(3)"a", and 567 IAC 23.2*

G20. Open Burning

The permittee is prohibited from conducting open burning, except as may be allowed by 567 IAC 23.2. *567 IAC 23.2 <u>except</u> 23.2(3)"h"; 567 IAC 23.2(3)"h" - State Only*

G21. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

G22. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
    a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.
    b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
    c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
    d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
    b. Equipment used during the maintenance, service, repair, or disposal of appliances must

comply with the standards for recycling and recovery equipment pursuant to § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.

d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)

e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,

5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G23. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*

2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.

a. Reopening and revision on this ground is <u>not</u> required if the permit has a remaining term of less than three years;

b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to June 25, 1993.

c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*

3. A permit shall be reopened and revised under any of the following circumstances:

a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to June 25, 1993, provided that the reopening may be stayed pending judicial review of that determination;

b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;

c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.

d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

G24. Permit Shield

Compliance with the conditions of this permit shall be deemed compliance with the applicable requirements included in this permit as of the date of permit issuance.

This permit shield shall not alter or affect the following:

1. The provisions of section 303 of the Act (emergency orders), including the authority of the administrator under that section;
2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Act;
4. The ability of the department or the administrator to obtain information from the facility pursuant to section 114 of the Act. *IAC 22.108 (18)*

G25. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G26. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G27. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought to determine transferability of the permit. *567 IAC 22.111 (1)"d"*

G28. Disclaimer

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G29. Notification and Reporting Requirements for Stack Tests or Monitor Certification

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with an applicable requirement. For the department to consider test results a valid demonstration of compliance with applicable rules or a permit condition, such notice shall be given. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. Unless specifically waived by the department's stack test contact, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. The department may accept a testing protocol in lieu of a pretest meeting. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-6001

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.

567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G30. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons. *567 IAC 26.1(1)*

G31. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits
EPA Region 7
Air Permits and Compliance Branch
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-5100

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1
909 West Main – Suite 4
Manchester, IA 52057
(319) 927-2640

Field Office 2
P.O. Box 1443
2300-15th St., SW
Mason City, IA 50401
(515) 424-4073

Field Office 3
1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4
706 Sunnyside
Atlantic, IA 50022
(712) 243-1934

Field Office 5
401 SW 7th St., Suite 1
Des Moines, IA 50309
(515) 725-0268

Field Office 6
1004 W. Madison
Washington, IA 52353
(319) 653-2135

Polk County Public Works Dept.
Air Quality Division
5895 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health Dept.
Air Pollution Control Division
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

V. Appendix A IDNR Air Quality Policy 3-b-08

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

POLICY/PROCEDURE STATEMENT

TOPIC: Opacity Limits

Policy Procedure Number: 3-b-08 **Replaces Number: None**

Date: **Effective Date:** November 12, 1998

Preparer: David Phelps **Reviewer:**

Approval: **Bureau Chief: Peter Hamlin** **Date:** 11/12/98

Division Administrator: Allan Stokes **Date:** 11/12/98

Applicable Code of Iowa or Iowa Administrative Code Rule: 23.3(2)d

"No person shall allow, cause or permit the emission of visible air contaminants into the atmosphere from any equipment, internal combustion engine, premise fire, open fire or stack, equal to or in excess of 40 percent opacity or that level specified in a construction permit, except as provided below and in 567-Chapter 24."

REASON OR BACKGROUND

The default opacity limit allowed by regulation is 40%. This limit was established with the original regulations in 1970. It is generally accepted that opacity greater than 40% was evidence of a mass emission standard exceedence. More recently, there have been requests from facilities for limits much lower than that allowed by the regulations, in some cases less than 0.01 gr/scf to which a 40% opacity limit does not correspond. Since opacity is used as an indicator of the particulate emission rate, listing an indicated potential problem opacity that is more in line with the mass emission rate is useful. In order to have the authority to set limits lower than 40%, subrule 23.3(2)d was changed. This change allows the department the ability to set opacity limits at a level that more closely corresponds to what would be observed by the source when operating in compliance with its mass emission rate.

Except in the case where a specific opacity limit is established by rule, it has been the general policy of the Department not to take action on opacity limits directly. Rather, if it is felt that a violation of the mass emission rate exists that is not attributable to some abnormal event, a stack test would be required to verify compliance. However, the Department reserves the right to use the results of formal opacity readings as evidence of an exceedence.

DETAILS

It shall be the policy of the Department to list the default opacity as a permit condition and in addition an indicator opacity may be listed.

For ease of proving continual compliance a source may request a 'no visible emissions' opacity limit which allows proof of compliance without having a certified opacity reading taken. In this case any visible emissions would be an exceedence.

The IDNR permit writer may list an opacity that will be a indicator of possible mass emission rate exceedence. If the permitee wishes, the recommended indicator opacity may be changed by demonstrating compliance with the mass emission rate during a stack test while emitting the new desired indicator opacity. If the tested mass emission rate is less than the permitted emission rate, then the desired indicator opacity may be set at a proportionally higher level than observed during the stack test.

If an opacity measurement, taken in accordance with an approved reference method for opacity, (generally USEPA Method 9 or 22) exceeds the indicator opacity then the facility will promptly investigate the source and make corrections. However, if after corrections are made the opacity continues to exceed the indicator opacity the Department may require additional proof to demonstrate compliance with the mass emissions limits.

Recommended indicator opacities shall be:

Grain Loading gr./scf	Recommended Indicator Opacity
<0.01 gr./scf	non specified in permit *
0.01 to 0.06 gr./scf	10% Opacity
0.061 to 0.08 gr./scf	20% Opacity
0.081 to 0.1 gr./scf	25% Opacity

* A line is added to the permit that states: "If visible emissions are observed other that start-up, shut-down, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard."

If a source is a batch process the indicator opacity shall be based on the table above, but the opacity averaging period, for comparison to the indicator opacity, shall be the entire batch cycle. For purposes of comparison to the indicator opacity readings shall be taken during the entire cycle and averaged.

Sources are also given the opportunity to set source specific limits to be coordinated with the initial compliance test. These may then be incorporated into the permit.

In all cases an exceedence of the indicator opacity will require the permitee to file an "indicator opacity exceedence report" to the IDNR regional office. The reporting requirements shall be:

Oral report of excess indicator opacity. An incident of excess indicator opacity (other than an incident of excess indicator opacity during a period of startup, shutdown, or cleaning) shall be reported to the appropriate regional office of the department within eight hours of, or at the start of the first working day following the onset of the of the incident. The reporting exemption for an incident of excess indicator opacity during startup and shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in subrule 25.1(6).

An oral report of excess indicator opacity is not required for a source with operational continuous monitoring equipment (as specified in subrule 25.1(1) if the incident of excess indicator opacity continues for less than 30 minutes and does not exceed the applicable visible emission standard by more than 10 percent opacity.

The oral report may be made in person or by telephone and shall include as a minimum the following:

a) The identity of the equipment or source operation form which the excess indicator opacity originated and the associated stack or emission point.
b) The estimated quantity of the excess indicator opacity.
c) The time and expected duration of the excess indicator opacity.
d) The cause of the excess indicator opacity.
e) The steps being taken to remedy the excess indicator opacity.
f) The steps being taken to limit the excess indicator opacity in the interim period.

Written report of excess indicator opacity. A written report of an incident of excess indicator opacity shall be submitted as a follow-up to all required oral reports to the department within seven (7) days of the onset of the upset condition, and shall include as a minimum the following:

a) The identity of the equipment or source operation point from which the excess emission originate and the associated stack or emission point.
b) The estimated quantity of the excess indicator opacity.
c) The time and duration of the excess indicator opacity.
d) The cause of the excess indicator opacity.
e) The steps that were taken to remedy and to prevent the recurrence of the incident of excess indicator opacity.
f) The steps that were taken to limit the excess indicator opacity.
g) If the owner claims that the excess indicator opacity was due to malfunction, documentation to support this claim.

Exceptions to this policy:

1) In the case where a facility has an opacity limit established in an existing permit, no change will be made to that permit limit unless the permit is being modified for other purposes.
2) If the facility has a continuous opacity monitor, this policy shall not apply.
3) This policy shall not apply to opacity limits established in Prevention of Significant Deterioration (PSD) permits or permits that were established for maintenance plans for nonattainment areas.
4) This policy shall not apply where an opacity limit is established as an indication of hazardous air pollutants.

5) This policy shall not apply where an opacity limit is established by a rule, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPS), etc.